SERVICE MANUAL 5420

marantz

model 5420

Stereo Cassette Deck

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model 5420 Strereo Cassette Deck.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation in the Cassette Deck.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can be usually obtained through local suppliers.

1. SERVICE NOTE

As can be seen from the circuit diagram, the chassis of Model 5420 consists of following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Pre-Amp.	mounted on P.W. Board, P100
2. Power Supply	mounted on P.W. Board, P400
3. Lamp	mounted on P.W. Board, P480
4. Switch	mounted on P.W. Board, P500
5. Input Select	mounted on P.W. Board, P600
6. Pan-Pot	mounted on P.W. Board, P700
7. Terminals	mounted on P.W. Board, P750
8. Dolby	mounted on P.W. Board, P800
9. Relay	mounted on P.W. Board, P450

2. TEST EQUIPMENT REQUIRED FOR SERVICING REPLACEMENT

For measuring or checking the Model 5420, the forlorning instruments and materials are necessary.

VTVM

Audio Oscillator (af OSC)

Attenuator (600Ω)

Oscilloscope

Bandpass Filters (1kHz, 500Hz)

Wow and Flutter Meter

Torque Meter

Blank Tapes

Digital Frequency Counter

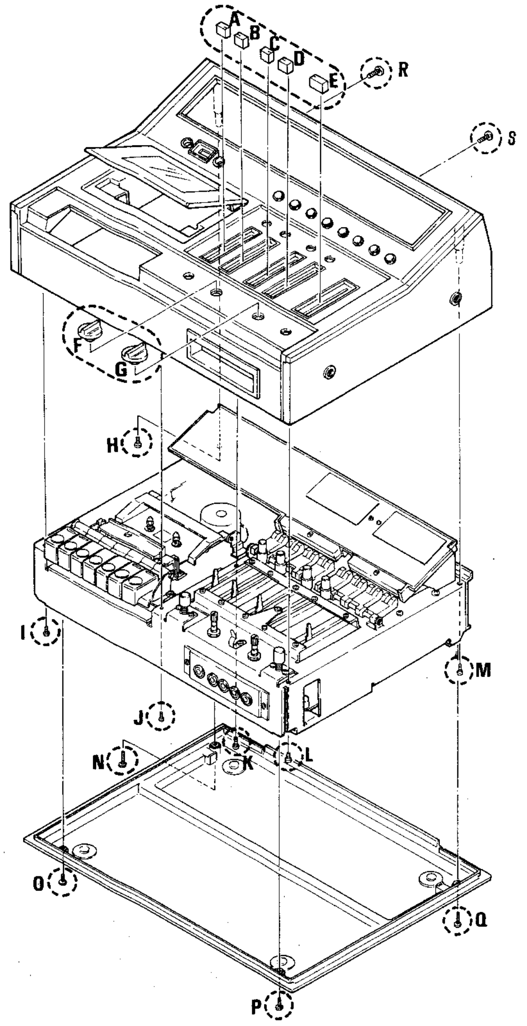
Distortion Meter

Test Tapes

3. DISASSEMBLING DIAGRAM

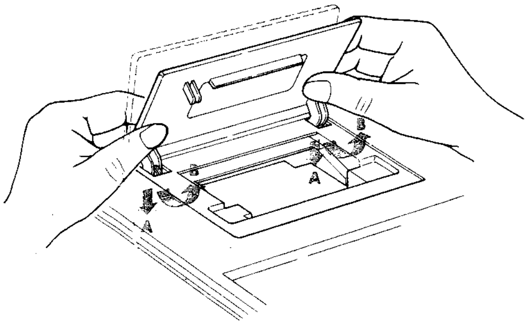
CAUTION:

In disassembling the Model 5420, do not re move the screws on the both sides as they are fitted as decoration.

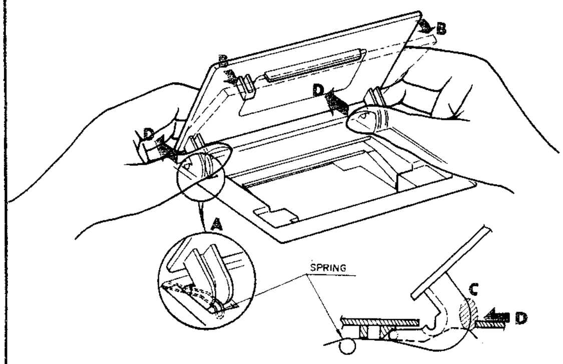


4. HOW TO REMOVE AND REPLACE THE CASSETTE LID.

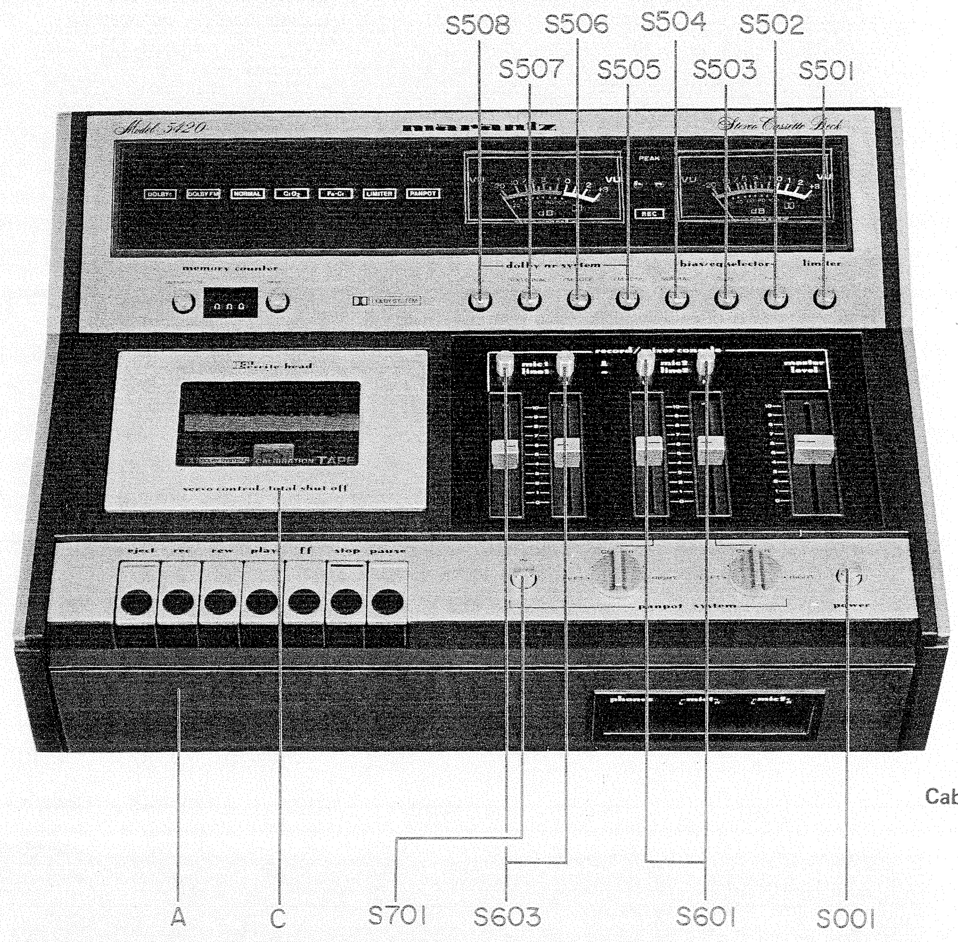
1. **How to Remove the Cassette Lid**
   Holding the cassette lid by both hands, as shown in the illustration, press it downward (in the arrow A direction) to unlock. After the cassette lid is unlocked, lift it up while turning in the arrow B direction.



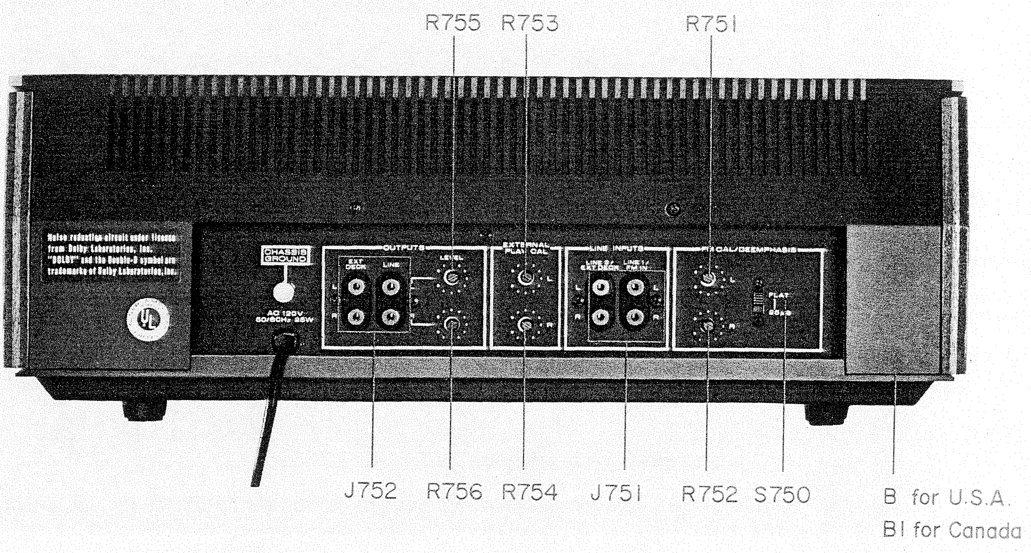
2. **How to Replace the Cassette Lid**
   To replace the cassette lid, proceed as follows. Properly put the‘spring into the slit to lightly fix the cassette lid.
   Lightly incline the cassette lid toward the front (in the arrow B direction) and intensively press the points C at both sides in the arrow D direction. This completes setting of the cassette lid.



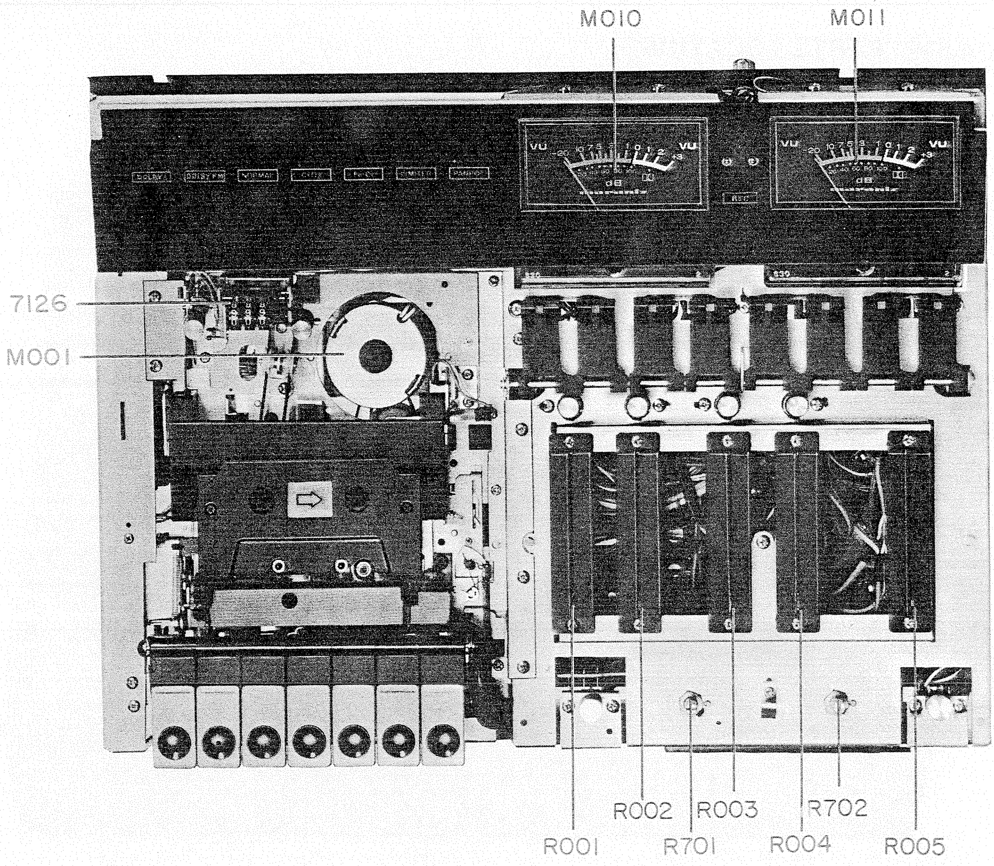
5. MAJOR PARTS LOCATIONS


S508
S506
S504
S502
S507
S505
S503
S501
A
C
S701
S603
S601
S001

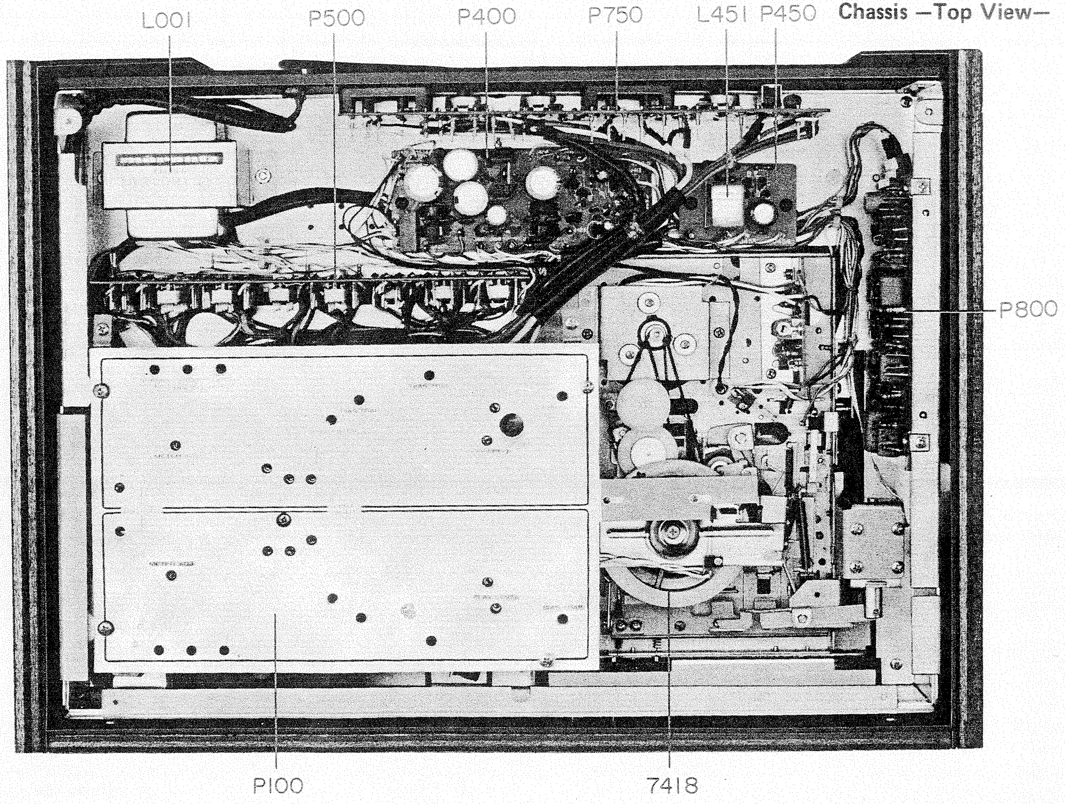
Cabinet —Front View—


R755
R753
R751
J752
R756
R754
J751
R752
S750
B for U.S.A.
B1 for Canada

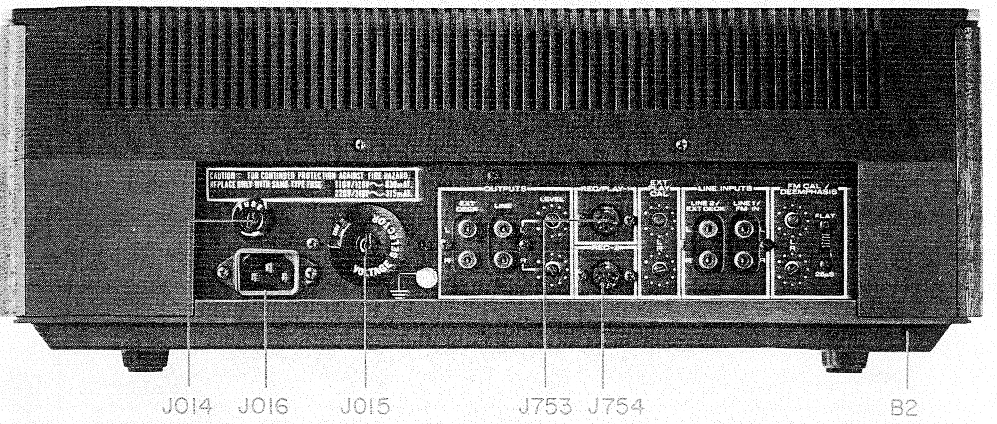
Cabinet —Rear View—


M010
M011
7126
M001
R002
R003
R702
R001
R701
R004
R005

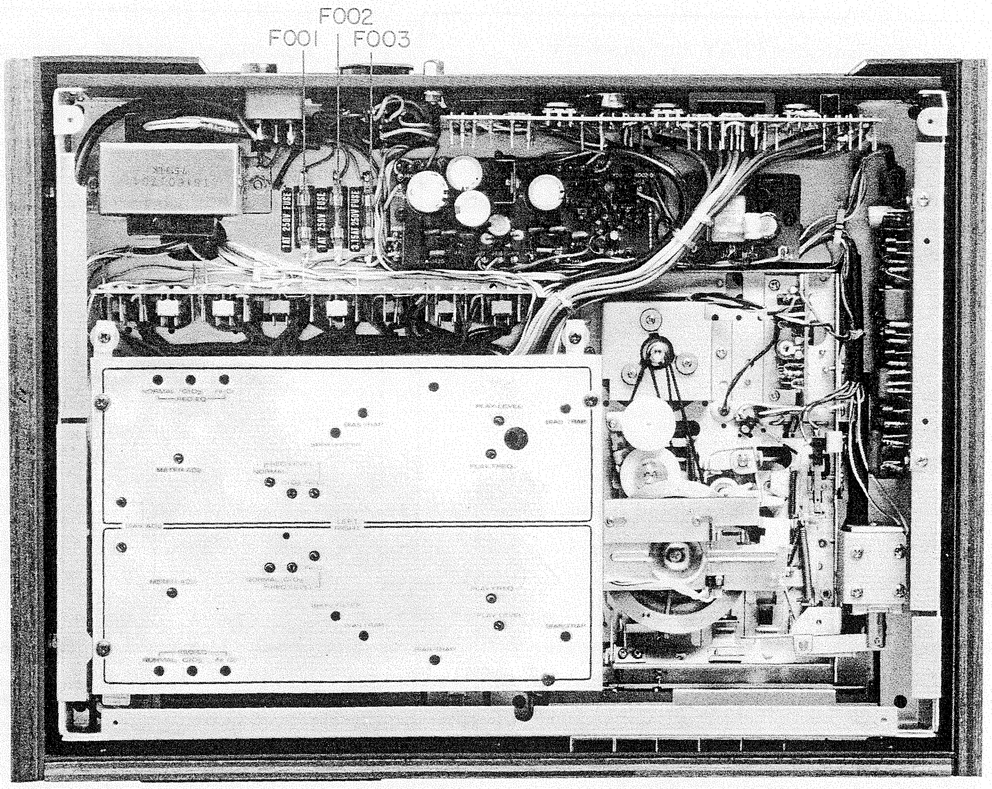
Chassis —Top View—


L001
P500
P400
P750
L451
P450
P800
P100
7418

Chassis —Back View—


J014
J016
J015
J753
J754
B2
OUTPUTS
REC/PLAY
LINE INPUTS
FM CAL/DEEMPHASIS
VOLTAGE SELECTOR

Cabinet — Rear View—
(for Europe)

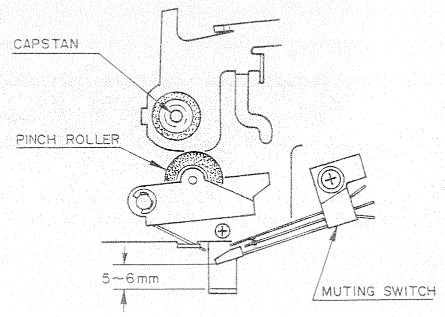

F002
F001
F003

Chassis — Back View—
(for Europe)

6. ADJUSTMENT PROCEDURES

6-1. MECHANICAL ADJUSTMENTS

1. **PLAY muting switch**
   Position the PLAY muting switch 5 to 6mm away from the switch operating arm so that the PLAY muting switch is actuated just before the PLAY pushbutton is depressed to lock.


CAPSTAN
PINCH ROLLER
5~6mm
MUTING SWITCH

2. **Adjusting the PLAY muting switch**
   Adjust the Play Muting switch mounting screws until in the "stop" state of the tape deck, the switch contact is set in position as illustrated in Fig. (A). In turn, set the tape deck in the play mode of operation and make certain that the switch contact is set as illustrated in Fig. (B)

Fig.(A)

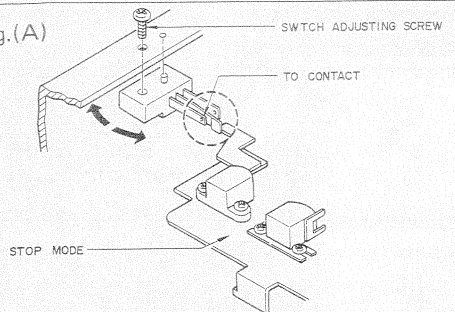
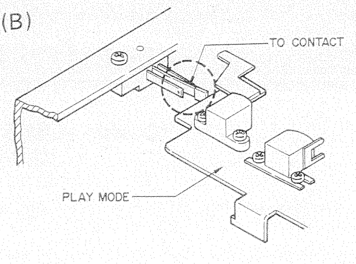
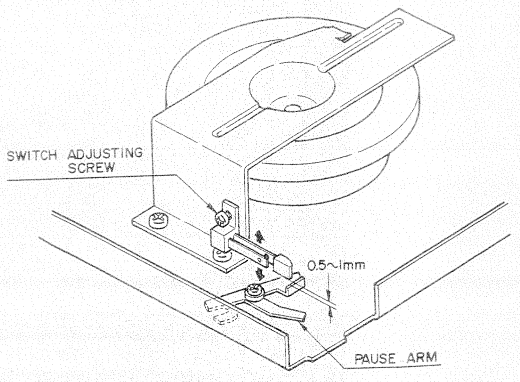

SWTCH ADJUSTING SCREW
TO CONTACT
STOP MODE

Fig. (B)

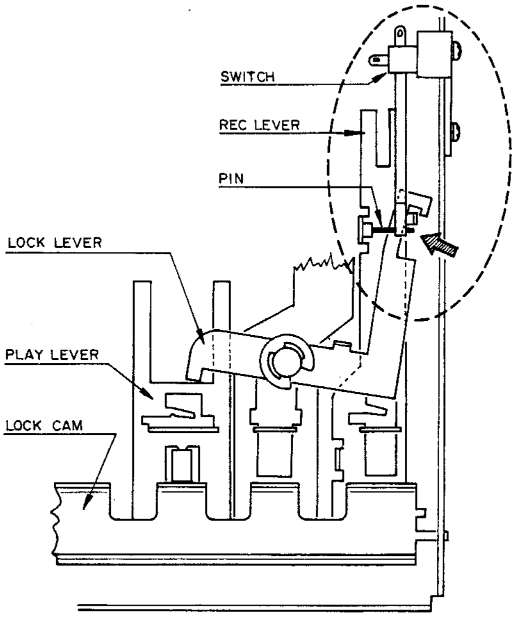

TO CONTACT
PLAY MODE

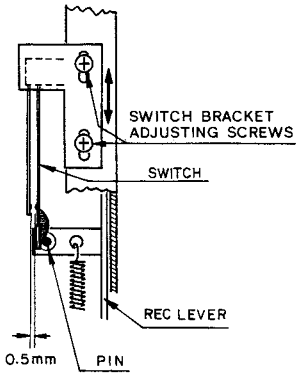
3. **Adjusting the PAUSE muting switch**
   Loose the Pause Muting switch mounting screw in the "stop" state of the tape deck, and adjust it until the clearance between the mold end tip of the switch contact and the pause arm becomes 0.5 to 1mm as illustrated below.


SWITCH ADJUSTING SCREW
0.5~1mm
PAUSE ARM

4. REC muting switch

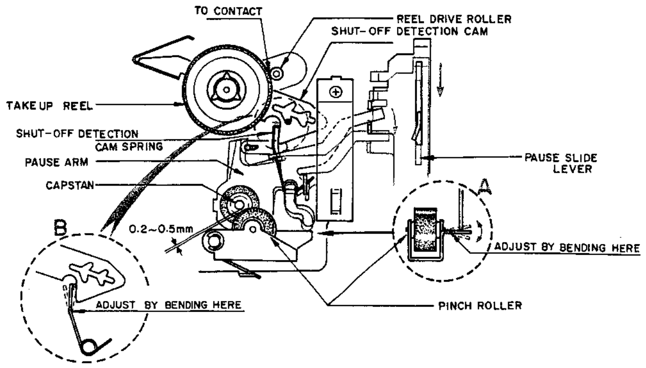
Depress the PLAY pushbutton down to lock. Push the REC pushbutton until the REC lever nocks up to the REC lock lever. In this state, adjust the switch bracket height with the adjusting screws so that the pin may come in contact with the switch mold, allowing a 0.5mm gap between the switch contacts.


SWITCH
REC LEVER
PIN
LOCK LEVER
PLAY LEVER
LOCK CAM

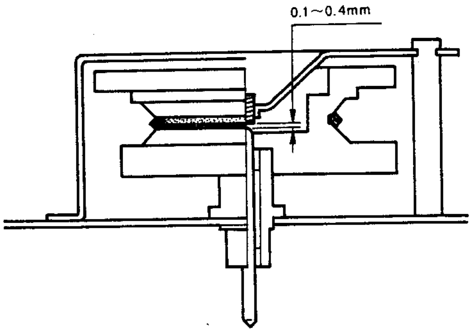

SWITCH BRACKET ADJUSTING SCREWS
SWITCH
REC LEVER
0.5mm
PIN

5. PAUSE timing

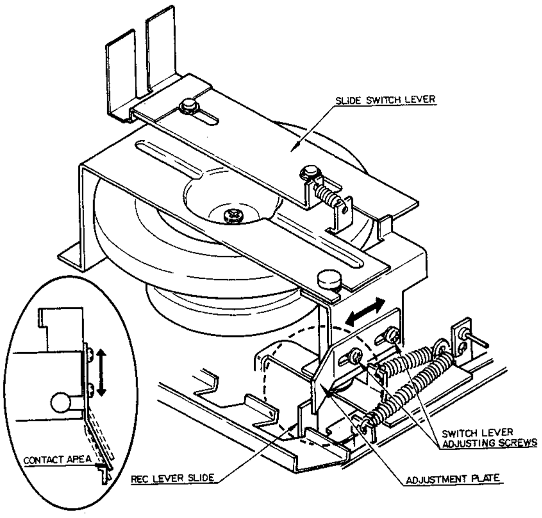
Depress the PLAY pushbutton down to lock. Adjust the bend angle of the pinch roller arm so that the clearance between the pinch roller and capstan may be 0.2 to 0.5mm at the instant when the takeup reel rotation is stopped by a slow depression of the PAUSE slide lever (See Detail A). In this state, adjust the bend angle of the shut-off detection cam spring so that it may come to push the cam (See Detail B).


TO CONTACT
REEL DRIVE ROLLER
SHUT-OFF DETECTION CAM
TAKE UP REEL
SHUT-OFF DETECTION CAM SPRING
PAUSE ARM
CAPSTAN
PAUSE SLIDE LEVER
A
0.2~0.5mm
B
ADJUST BY BENDING HERE
ADJUST BY BENDING HERE
PINCH ROLLER

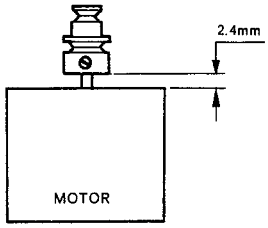
6. **Flywheel thrust**
Adjust the thrust screw located on the flywheel bracket using a screw-driver until the clearance becomes 0.1 mm to 0.4 mm. After adjustment, paint on the screw to lock.



7. **RECORD/PLAY switch lever**
Make certain that the slide switch lever presses fully onto the record/play switch when the REC lever is locked. If normal, loosen the two switch lever adjusting screws, and position the adjustment plate until it comes in contact with the REC lever slide tip. Retighten the two screws. Grease the contact area.


SLIDE SWITCH LEVER
CONTACT AREA
REC LEVER SLIDE
SWITCH LEVER ADJUSTING SCREWS
ADJUSTMENT PLATE

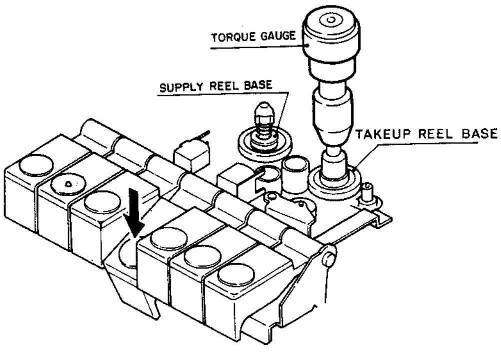
8. **Motor-pulley clearance**
Check to insure that the clearance between the DC motor and pulley is 2.4mm. If not, correct the pulley set position.



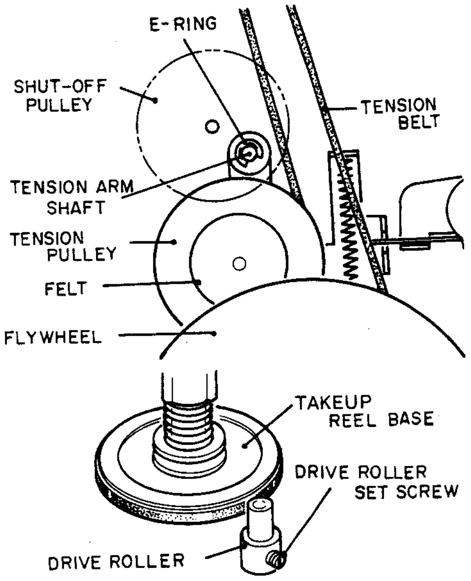
9. Reel base torques

The normal takeup and supply reel base torques are as follows.

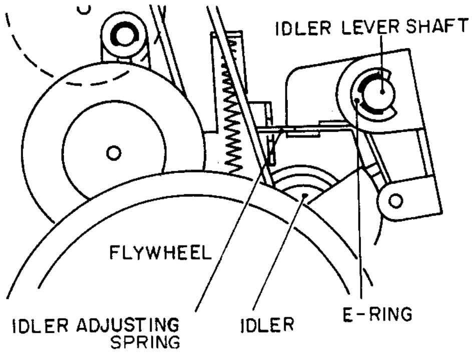
Takeup reel base:	40 to 70 g.cm in PLAY mode. 60 to 140 g.cm in FF mode.
Supply reel base:	60 to 140 g.cm in REW mode.


TORQUE GAUGE
SUPPLY REEL BASE
TAKEUP REEL BASE

(1) If the takeup torque in the PLAY state is not correct, first make sure that the drive roller set screw is not loose. If there is oil adhering to the rim of the reel base, wipe it away carefully. If the torque is still incorrect, see whether oil has penetrated on the friction belt of the tension pulley. This could cause slipping. In such a case, replace the tension arm assembly. To remove it, remove the E-ring on top of the tension arm shaft and lift the assembly. (The belt and flywheel must first be removed.)


E-RING
SHUT-OFF PULLEY
TENSION BELT
TENSION ARM SHAFT
TENSION PULLEY
FELT
FLYWHEEL
TAKEUP REEL BASE
DRIVE ROLLER SET SCREW
DRIVE ROLLER

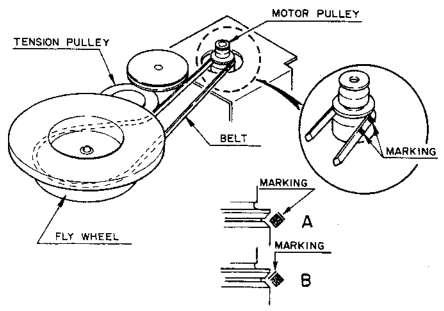
(2) If the reel base torque in the FF and REW states is not correct, bend the idler adjusting spring inward so that the idler easily engages with the flywheel, increasing the contact pressure between the flywheel and idler tire. If the torque is still incorrect, replace the idler lever assembly. To remove it, remove the E-ring on the idler lever shaft and lift the assembly.


IDLER LEVER SHAFT
FLYWHEEL
IDLER ADJUSTING SPRING
IDLER
E-RING

10. Wow and flutter improvement

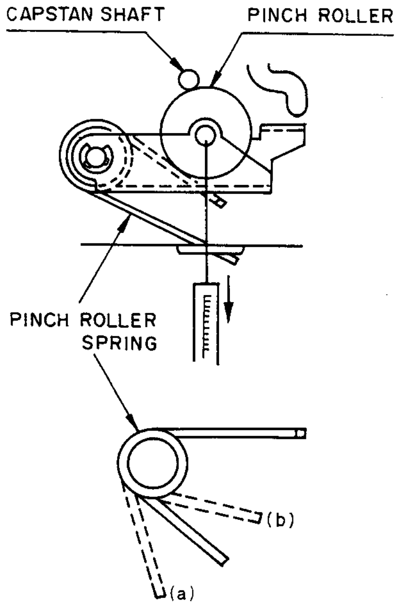
Make sure that the tension belt is not twist. Clean the belt with alcohol.

NOTE: As the belt installed on the motor pulley and flywheel largely affects the wow and flutter, its optimum side is selected at the factory for an individual mechanism to face the motor pulley and flywheel to provide minimum wow and flutter. To assure optimum belt arrangement, the belt has markings.
If the belt is removed, make sure to reinstall it so that its marking should face the same direction as the original one. Wrong marking direction may increase the wow and flutter.
If replacing the belt, it should be installed by selecting the direction of either marking A or B in connection with minimum wow and flutter.



11. Pinch roller pressure

Measure the pinch roller pressure with a contact pressure gauge as follows: Pull the pinch roller away from the capstan shaft in the direction of the arrow shown to stop its rotation and return it toward the capstan gradually. Read the gauge just when the pinch roller begins to rotate. The pinch roller pressure has been adjusted to 300–450g by the shape of the pinch roller spring. If the gauge reading is out of this range, change the shape of the pinch roller spring by pulling it toward (a) when a greater pressure is wanted and pushing it toward (b) when a smaller pressure is wanted.



12. Shut-off mechanism

(1) Adjusting the link allowance

Turn and locate the shut-off pulley so that the gear tooth (c) moves the lever to its farthest position as shown in Fig. A. Keeping the link in the direction of the arrow (b), adjust the link allowance along the direction of the arrow (a) to 0.1–0.5mm with the adjusting screws.

(2) Adjusting the detect pin position

Turn and locate the shut-off pulley so that the gear tooth (c) is not in contact with the lever as shown in Fig. A. Setting the button to the STOP mode (Fig. B), adjust the detect pin position by changing the shape of member (a) so that the pin is in the slot of the detect cam as shown in Fig. C.

(3) Adjusting the detect cam

In REW mode, adjust the clearance between the brake plate and the detect cam to 1–2mm when the pin engages with the cam as shown in Fig. D.

Fig. A

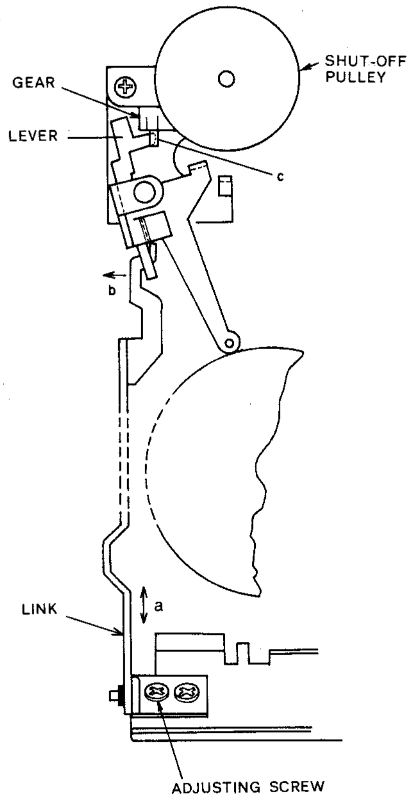

GEAR
LEVER
SHUT-OFF PULLEY
c
b
LINK
a
ADJUSTING SCREW

Fig. C

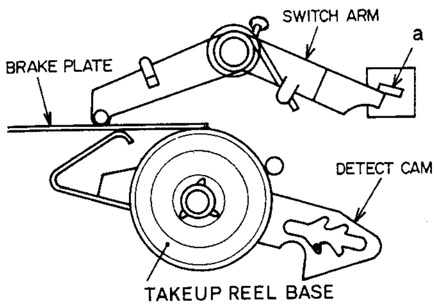

SWITCH ARM
a
BRAKE PLATE
DETECT CAM
TAKEUP REEL BASE

Fig. B

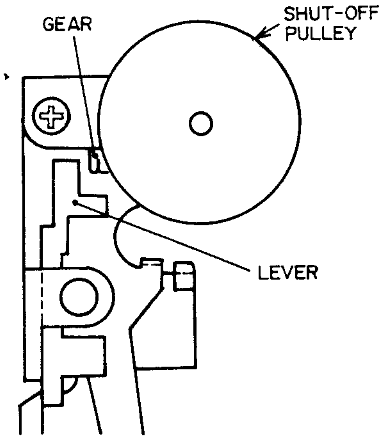
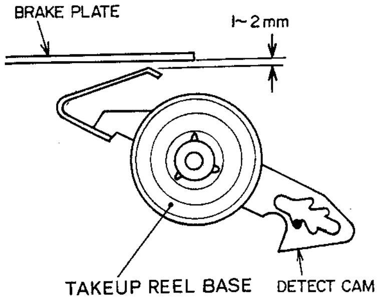

GEAR
SHUT-OFF PULLEY
LEVER

Fig. D


BRAKE PLATE
1~2mm
TAKEUP REEL BASE
DETECT CAM

6-2. ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

Precautions Before Adjustment and Measurement

1. Before playing the test tape back, thoroughly demagnetize the heads, capstan and similar parts using an eraser as the test tape-recorded tone is easily erased.
2. Do not place the test tape on any messuring instrument.
3. Do not put the test tape near a place where the eraser is used.
4. Method of Demagnetization — Turn on the eraser power switch at a remote position far away from the heads. Bring the eraser close to the heads, capstan and other parts to be demagnetized, and move it up and down four or five times to demagnetize. Slowly separate the eraser far away from the parts, and turn off the power switch.
5. Do not use any magnetized adjusting tool. When using it, demagnetize it from time to time in the course of each adjustment.
6. Do not turn semi-fixed resistor, capacitor, inductor adjusting screws more than needed.
7. If measuring the tape speed wow and flutter, operate the tape deck in the normal operating condition.
8. Do not apply locking bond excessively.

Definitions

1. The "normal playback state" is an operating state of the tape deck which plays back the MTT-150 test tape and is adjusted so as to produce a 580mV output at the EXT. DECK terminal with the load being the measuring instrument input impedance of greater than 100kΩ and with the TAPE selector switch set at the NORMAL position.

2. The "normal recording state" is an operating state of the tape deck which records a 1kHz signal to a specified recording level for which the recording level control is adjusted with the 1kHz signal applied at a specified input level to the MIC input terminal.
   In the normal recording state, therefore, this tape deck is set up with the level control to the state that the level meter pointer may deflect to the 100% mark as OVU with a 1kHz, 1mV input signal applied.

1. Head Azimuth Adjustment

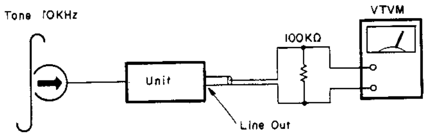
SET UP

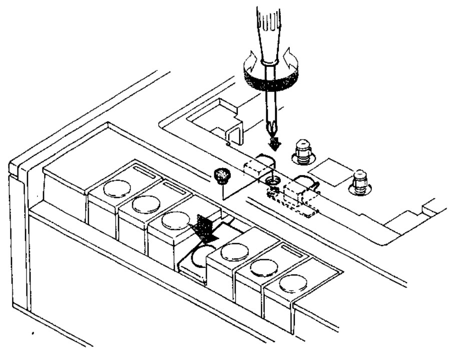
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- LINE OUT.
5. Test tape used:- MTT-116U (31.5Hz to 14kHz).

PROCEDURES

1. Play the 10kHz portion of the test tape MTT-116U back. Adjust the head azimuth adjusting screw for maximum VTVM read.
2. If the peak output reads of the right and left channels are different, set the screws to obtain the mechanical center between the peaks.
3. After adjustment, lock the screw with bond.

Mode: playback





CAUTION

After adjustment, repeat the playback and stop setting a few times to make certain of no head azimuth deviation.

2. Tape Speed Adjustment

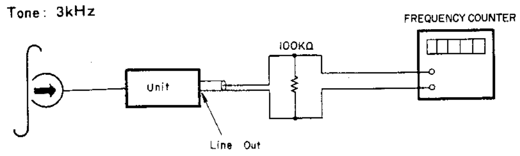
SET UP

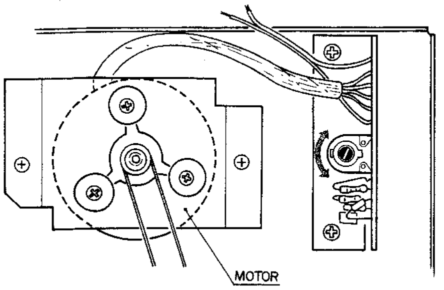
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Test tape used:- MTT-111.
4. Unit position:- Horizontal.

PROCEDURES

1. Play the mid portion of the test tape MTT-111 back. Adjust the tape speed adjusting semi-fixed resistor for 2990 to 3010Hz counter indication.

Mode: playback


Tone: 3kHz
FREQUENCY COUNTER
100KΩ
Unit
Line Out



CAUTIONS

1. For adjustment, the tape deck should be set up in the normal operating condition.
2. Do not adjust the semi-fixed resistor more turns than needed.
3. Do not proceed with adjustment after the tape deck temperature has changed.
4. If a strong shock or similar vibration is applied to the tape deck after adjustment, make certain that the measured tape speed had not changed.
5. If the tape speed deviation occurs, perform the adjustment again.
6. Be careful that the counter may indicate a wrong value because of too low counter input level.
7. Before adjustment, allow for 30 seconds or more after depressing of the PLAY pushbutton.

3. Playback Equalizer Adjustment

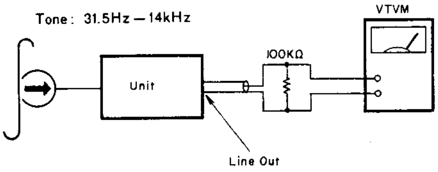
SET UP

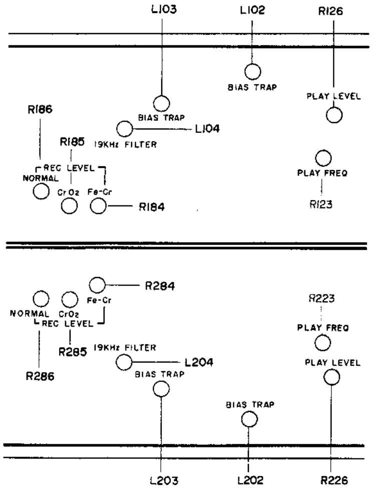
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUT.
5. Test tape used:- MTT-116U (31.5Hz to 14kHz).

PROCEDURES

1. Play the test tape MTT-116U. Let the 315Hz signal level be reference as OdB.
2. Adjust R123 and R223 (3kΩ each) for 10kHz frequency response of 0 to −1dB in reference to the 315Hz signal level (OdB).
3. Proceed both for the right and left channels in the same manner.
4. Note that clockwise turning of R123 and R223 will increase the 10kHz signal output level.

Mode: playback


Tone: 31.5Hz – 14kHz
VTVM
100KΩ
Unit
Line Out


L103
L102
R126
BIAS TRAP
PLAY LEVEL
R186
BIAS TRAP
L104
R185
19KHz FILTER
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
PLAY FREQ
R123
R284
Fe-Cr
R223
NORMAL
CrO2
REC LEVEL
PLAY FREQ
R285
19KHz FILTER
L204
PLAY LEVEL
R286
BIAS TRAP
BIAS TRAP
L203
L202
R226

4. Playback Output Adjustment

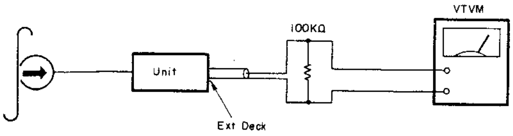
SET UP

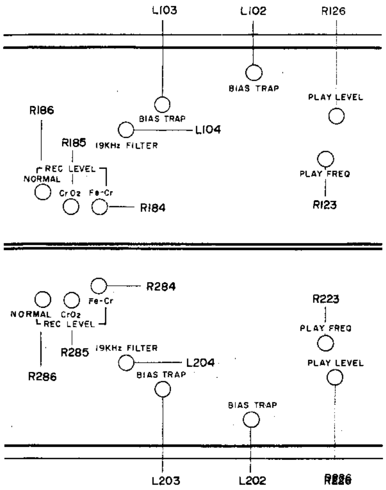
1. Power voltage:- 50 or 60 Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- EXT. DECK.
5. Test tape used:- MTT-150.

PROCEDURES

1. Play the test tape MTT-150 back. Adjust R126 and R226 (50kΩ each) for 580mV playback output level.
2. Proceed both for the right and left channels in the same manner.

Mode: playback


VTVM
100KΩ
Unit
Ext Deck


L103
L102
R126
BIAS TRAP
PLAY LEVEL
R186
BIAS TRAP
L104
R185
19KHz FILTER
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
PLAY FREQ
R123
R284
NORMAL
CrO2
Fe-Cr
REC LEVEL
R223
PLAY FREQ
R285
19KHz FILTER
L204
PLAY LEVEL
R286
BIAS TRAP
BIAS TRAP
L203
L202
R226

CAUTION

1. This adjustment should be performed after the one for the playback equalizer. If the playback equalizer is adjusted after the playback output adjustment, the playback output should be readjusted.

5. VU Meter Adjustment

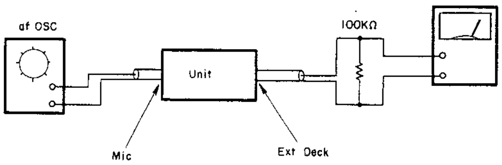
SET UP

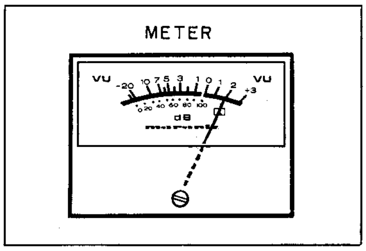
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. FUNCTION selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal used:- EXT. DECK.
5. Input terminal:- MIC 1.

PROCEDURES

1. Connect a 1kHz, –60dBV input signal to the MIC 1 terminal. Set up the tape deck for the recording mode of operation.
2. Adjust the REC control for 580mV output level at MONI. OUT of the EXT. DECK output terminals.
3. Adjust R171 and R271 (3kΩ each) until the VU meter pointer deflects to the DOLBY mark (DD) on the VU meter.

Mode: record
Tone: 1kHz


VTVM
af OSC
100KΩ
Unit
Mic
Ext Deck


METER
VU
-20
10 7 5 3
1 0 1 2
+3
VU
dB

CAUTION

1. To correct the meter pointer zero-point deviation in the stop state, adjust the meter zero-point adjusting screw for correct zero point. This should be performed before adjusting the VU meter.

6. Bias Trap Adjustment

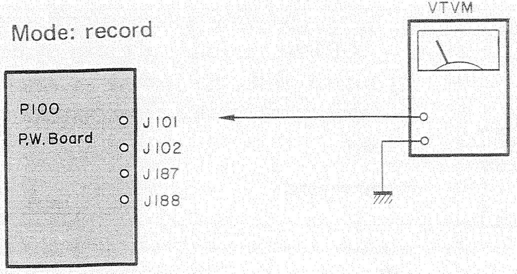
SET UP

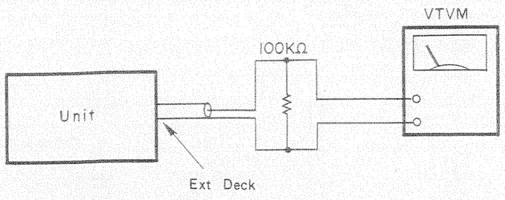
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Level control position:- Maximum.
3. TAPE selector switch position:- CrO_2.

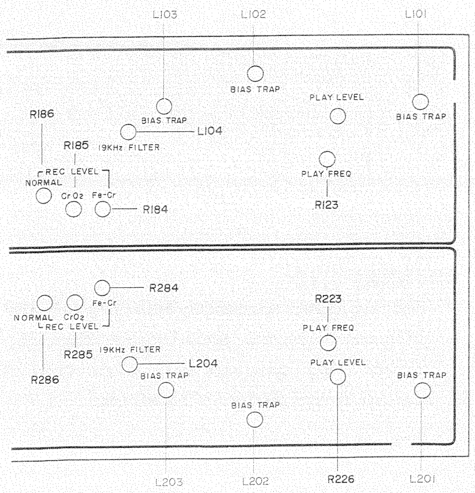
PROCEDURES

1. Set up the tape deck in the recording mode of operation.
2. Connect the VTVM to J101 and J102. Adjust L101 and L201 for minimum VTVM read.
3. In turn, connect the VTVM to J187 and J188. Adjust L102 and L202 for minimum VTVM read.
4. Adjust L103 and L203 for minimum leak bias at the EXT. DECK terminal.

Mode: record


VTVM
P100
P.W. Board
J101
J102
J187
J188


VTVM
100KΩ
Unit
Ext Deck


L103
L102
L101
BIAS TRAP
PLAY LEVEL
BIAS TRAP
R186
BIAS TRAP
L104
R185
19KHz FILTER
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
PLAY FREQ
R123
R284
R223
Fe-Cr
NORMAL
CrO2
REC LEVEL
PLAY FREQ
R285
19KHz FILTER
L204
PLAY LEVEL
R286
BIAS TRAP
BIAS TRAP
BIAS TRAP
L203
L202
R226
L201

CAUTIONS

1. If the leak bias is less than the specified value, the bias trap needs not to be adjusted since the adjusting coil is factory preset.
2. The adjusting rod used should be non-metalic.

7. 19kHz Filter Adjustment

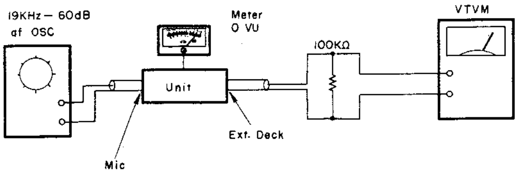
SET UP

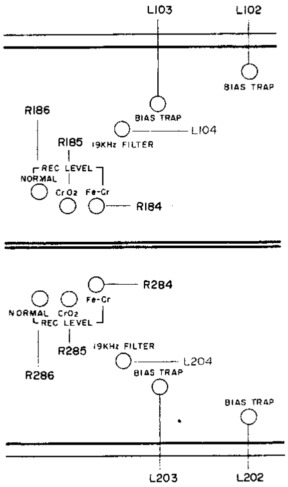
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input connection:- 19kHz, –60dB signal to MIC 1 terminal.
3. TAPE selector switch:- NORMAL.
4. Output terminal:- EXT. DECK.
5. Load:- Measuring instrument input impedance.

PROCEDURES

1. Connect the 19kHz, –60dBV input signal to the MIC 1 terminal. Adjust the level control for OVU.
2. In turn, turn the Dolby switch to the ON position. Adjust L104 and L204 for minimum output level at the EXT. DECK terminal.
3. Proceed both for the right and left channels in the same manner.

Mode: record


19KHz – 60dB
af OSC
Meter
0 VU
Unit
100KΩ
VTVM
Ext. Deck
Mic


L103
L102
BIAS TRAP
R186
BIAS TRAP
L104
R185
19KHz FILTER
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
R284
Fe-Cr
NORMAL
CrO2
REC LEVEL
R285
19KHz FILTER
L204
R286
BIAS TRAP
BIAS TRAP
L203
L202

CAUTIONS

1. The 19kHz input signal should be as precise as 19 ± 0.5kHz.
2. If the filter characteristic is better than 15dB, the adjusting coil needs not to be adjusted since it is factory set.

8. Recording Bias Current Adjustment (Temporal)

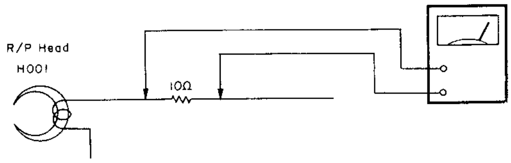
SET UP

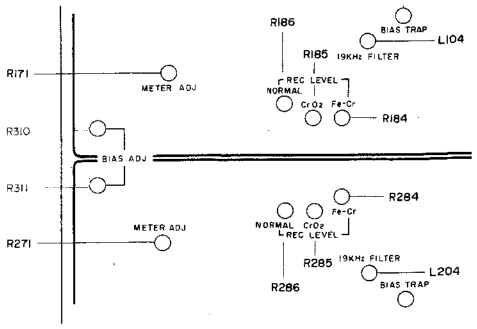
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch:- NORMAL.

PROCEDURES

1. Set up the tape deck in the recording mode of operation. Connect the VTVM across the 10Ω resistor connected to the head. Adjust the semi-fixed resistor R310 and R311 for 1.8mV VTVM read.
2. Proceed both for the right and left channels in the same manner.
3. For the tape deck equipped with the TAPE selector switch, make certain that the VTVM reads approximately 2.7mV with it set to the CrO_2 position.
4. When the TAPE selector switch is set at the NORMAL position, the leaf switch interlocked with the automatic tape selector lever, or CrO_2 tape detecting lever, will turn off.

Mode: record


VTVM
R/P Head
H001
10Ω


R186
BIAS TRAP
L104
R185
19KHz FILTER
R171
METER ADJ
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
R310
BIAS ADJ
R311
R284
Fe-Cr
NORMAL
CrO2
REC LEVEL
METER ADJ
R271
R285
19KHz FILTER
L204
R286
BIAS TRAP

CAUTION

The measured recording bias current may be different from the actual value. If so, fix the VTVM lead wire connected to the 10Ω resistor for minimum VTVM read.

9. Recording Equalizer Adjustment

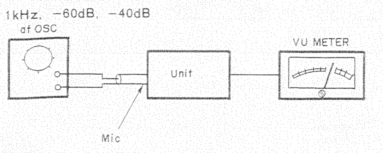
SET UP

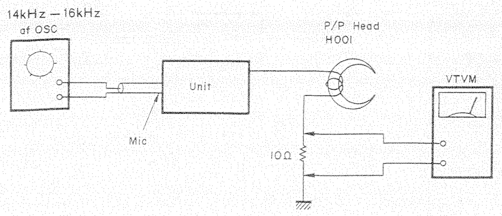
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input level:- 20dB lower than −60dB.

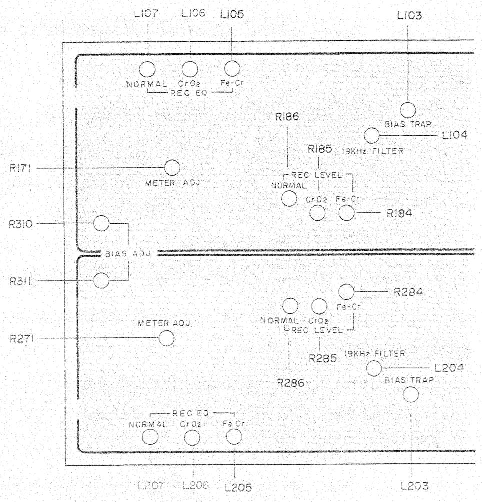
PROCEDURES

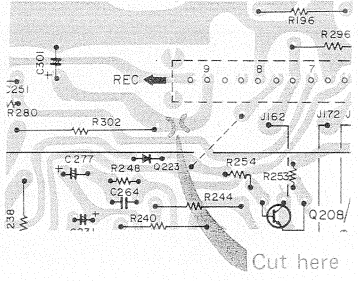
1. Stop the recording bias oscillation by cutting out R302 from the bias circuit printed line.
2. Set up the tape deck to the normal recording state. Reduce the input level by 20dB.
3. Set the TAPE selector switch to the NORMAL position. Set the audio-frequency oscillator to 14kHz. Connect the VTVM across the 10Ω resistor connected to the head grounding end. Adjust L107 and L207 for maximum VTVM read.
4. In turn, set the TAPE selector switch to the CrO_2 position. Set the audio-frequency oscillator to 16KHz. Connect the VTVM across the 10Ω resistor connected to the head grounding end. Adjust L106 and L206 for maximum VTVM read.
5. Set the TAPE selector switch to the Fe-Cr position. Set the audio-frequency oscillator to 16KHz. Connect the VTVM across the 10Ω resistor connected to the head for maximum VTVM read.
6. After adjustment, release the recording bias. Disconnect the 10Ω resistor from the head.
7. Proceed both for the right and left channels in the same manner.

Mode: record


1kHz, −60dB, −40dB
of OSC
Unit
VU METER
Mic


14kHz — 16kHz
of OSC
Unit
P/P Head
H001
VTVM
Mic
10Ω


L107
L106
L105
L103
NORMAL
CrO2
Fe-Cr
REC EQ
R186
BIAS TRAP
L104
R185
19KHz FILTER
R171
METER ADJ
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
R310
BIAS ADJ
R311
R284
Fe-Cr
METER ADJ
NORMAL
CrO2
REC LEVEL
R271
R285
19KHz FILTER
L204
R286
BIAS TRAP
REC EQ
NORMAL
CrO2
Fe Cr
L207
L206
L205
L203


R196
R296
C301
9
8
7
REC
C251
R280
R302
J162
J172
C277
R248
Q223
R254
R253
C264
R244
R240
Q208
Cut here

CAUTION

The adjusting rod should be non-metalic.

10. Recording Current Adjustment (Temporal)

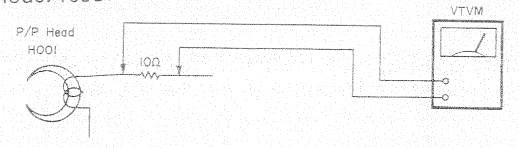
SET UP

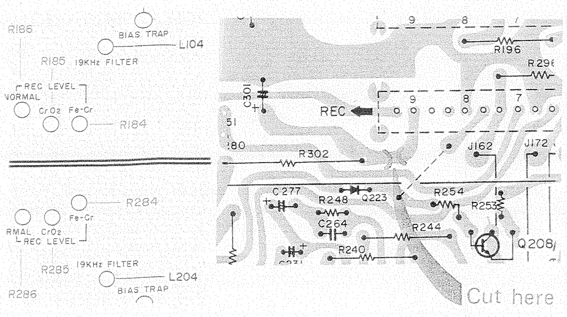
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, –60dB signal.
3. TAPE selector switch positions:- NORMAL, CrO_2 and Fe-Cr.
4. Load:- Measuring instrument input impedance.

PROCEDURES

1. Stop the recording bias current oscillator by cutting out the bias circuit +B printed line (R302).
2. Set up the tape deck to the normal recording state. Connect the VTVM across the 10Ω resistor connected to the head. Adjust the semi-fixed resistors R186 and R286 (for NORMAL), R185 and R285 (for CrO_2) and R184 and R284 (for Fe-Cr) until the VTVM reads 0.40mV (for NORMAL), 0.70mV (for CrO_2) and 0.45mV (for Fe-Cr), respectively.
3. Proceed both for the right and left channels in the same manner.
4. After adjustment, release the recording bias current.

Mode: record


VTVM
P/P Head
H001
10Ω


R186
BIAS TRAP
L104
R185
19KHz FILTER
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
R284
Fe-Cr
RMAL
CrO2
REC LEVEL
R285
19KHz FILTER
L204
BIAS TRAP
R286
9
8
R196
R296
C301
REC
9
8
7
51
180
R302
J162
J172
C277
R248
Q223
R254
R253
C264
R244
Q208
R240
Cut here

11. Record-Playback Frequency Response Adjustment

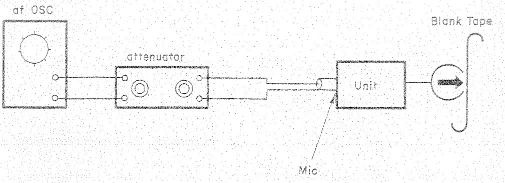
SET UP

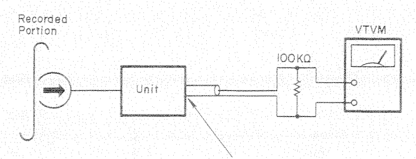
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input signal:- 1kHz, –60dB with –20dB referenced as OVU.
3. TAPE selector switch:- Fe-Cr.
4. Output terminal:- LINE OUT.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- TDK KRC-60.

PROCEDURES

1. Connect the input signal to the MIC 1 terminal. Set up the tape deck to the normal recording state.
2. In turn, reduce the input level by 20dB with the use of the attenuator. Record the 1kHz and 14kHz tones.
3. Play the 1kHz, 20dB-down recorded tone back as OdB. Adjust the recording bias current until the 14kHz response is within ±1.5dB as referenced to the 1kHz, OdB response.
4. Proceed both for the right and left channels in the same manner.
5. If the recording bias current is reduced in the above adjustment, be sure to measure the distortion.

Mode: record


1kHz, –60dB
of OSC
attenuator
Blank Tape
Unit
Mic


Recorded Portion
VTVM
100KΩ
Unit
Lin Out

12. Record-Playback Output Level Adjustment

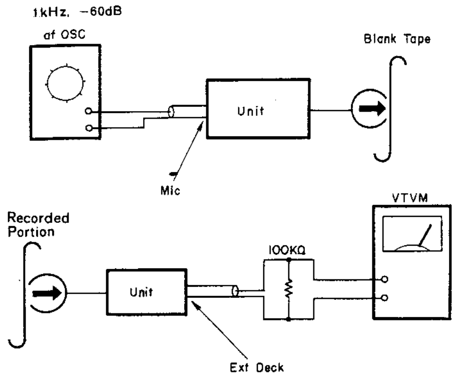
SET UP

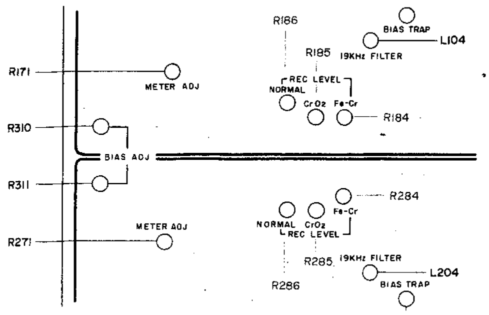
1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal.
3. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.
4. Output terminal:- EXT. DECK.
5. Load:- Measuring instrument input impedance.
6. Test tape used:- TDK DC-60, KRC-60 and SONY Fe-Cr.

PROCEDURES

1. Connect the 1kHz, −60dB input signal to the MIC 1 terminal. Set up the tape deck to the normal recording state.
2. Adjust the REC LEVEL semi-fixed resistor until the recorded signal is reproduced at 460mV ±0.5dB.
3. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.
4. The semi-fixed resistors to be adjusted are:
   R186 and R286 for the NORMAL position.
   R185 and R285 for the CrO_2 position.
   R184 and R284 for the Fe-Cr position.

Mode: record


1kHz, -60dB
at OSC
Blank Tape
Unit
Mic
Recorded Portion
VTVM
100KΩ
Unit
Ext Deck


R186
BIAS TRAP
L104
R185
19KHz FILTER
R171
METER ADJ
REC LEVEL
NORMAL
CrO2
Fe-Cr
R184
R310
BIAS ADJ
R311
R284
Fe-Cr
METER ADJ
NORMAL
CrO2
REC LEVEL
R271
R285
19KHz FILTER
L204
R286
BIAS TRAP

CAUTION

1. If the bias current is changed, be sure to perform the above adjustment.

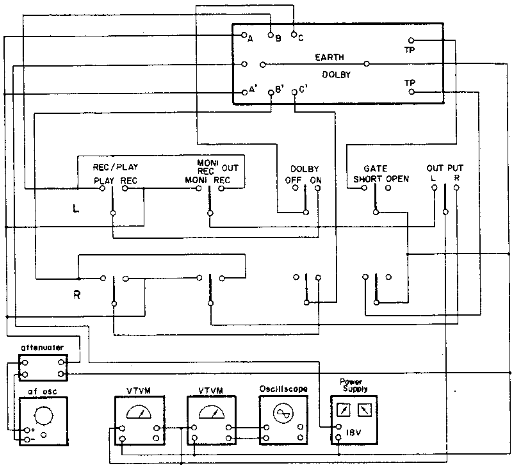
13. Dolby Circuit Adjustment

A) Encoder Circuit

1. Set the selector switch to the ENCODER (recording) position.
2. Adjust the LAW control for maximum positive potential applied to the source of the FET.
3. Turn the NOISE REDUCTION switch to the OFF position. Ground the gate of the FET.
4. Connect and adjust a 5kHz input signal for 17.5mV level at the MON. OUT terminal.
5. Note the output level at the REC. OUT terminal. Let the output level be OdB as reference level.
6. Turn the NOISE REDUCTION switch to the ON position. Adjust the GAIN control until the output level at the REC. OUT terminal increases by 10 ± 0.25dB as compared with the one measured in Step 5 above (OdB).
7. Open the gate of the FET. Adjust the LAW control until the output level at the REC. OUT terminal decreases by 2 ± 0.25dB as compared with the OdB reference level.

B) Decoder Circuit

1. Set the selector switch to the DECODER (playback) position.
2. Turn the NOISE REDUCTION switch to the OFF position. Ground the gate of the FET.
3. Connect and adjust the 5kHz input signal for 4.4mV level at the MON. OUT terminal.
4. Make certain that the output level at the MON. OUT terminal is reduced by 10dB ± 0.5dB when the NOISE REDUCTION switch is turned to the ON position.
5. Open the gate of the FET. Make certain that the signal level at the MON. OUT terminal is 17.5mV ± 0.5dB.
6. If the signal level is out of the above permissible range, repeat the adjustment beginning with the encoder circuit, not from the decoder circuit at all.


A
B
C
TP
EARTH
DOLBY
TP
A'
B'
C'
REC/PLAY
PLAY REC
MONI REC OUT
MONI REC
DOLBY
OFF ON
GATE
SHORT OPEN
OUT PUT
L R
L
R
attenuater
af osc
+
-
VTVM
VTVM
Oscilloscope
Power Supply
18V

14. Tape Speed Measurement

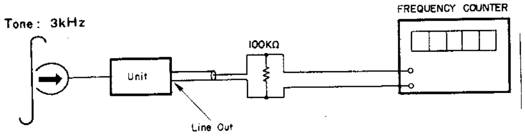
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Test tape used:- MTT-111.
4. Set position:- Horizontal.

PROCEDURES

1. Play the wound-up end of the test tape MTT-111 back. Read the frequency counter indication.

Mode: playback



STANDARD

Tape speed:- 4.8cm/sec +2, –2%.
Frequency: 2940 to 3060Hz.

CAUTION

The tape deck should be leveled as specified for this measurement.

15. Wow and Flutter Measurement

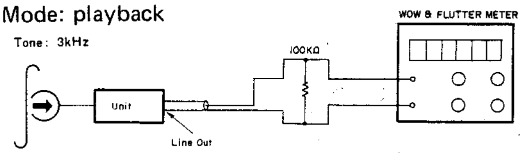
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Output terminal:- LINE OUT.
3. Load:- Measuring instrument input impedance.
4. Test tape used:- MTT-111.
5. Set position:- Horizontal.
6. Wow & flutter meter function switch:- NAB UNWTD.

PROCEDURES

1. Play the test tape MTT-111 back. Read the wow & flutter meter indication.

Mode: playback



STANDARD

Less than NAB 0.1% in Wrms.

CAUTION

The measurement should be performed at the wound-up end of the test tape.

16. Playback Output Level Measurement (at LINE OUT)

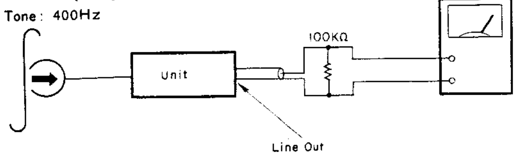
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL.
3. Load:- Measuring instrument input impedance.
4. Output terminal:- LINE OUT.
5. Test tape used:- MTT-150.

PROCEDURES

1. Play the test tape back in the normal playback state. Read the VTVM indication.
2. Proceed both for the right and left channels in the same manner.

Mode: playback



STANDARD

Within 900mV ± 3dB.

17. Playback Signal-to-Noise Ratio Measurement

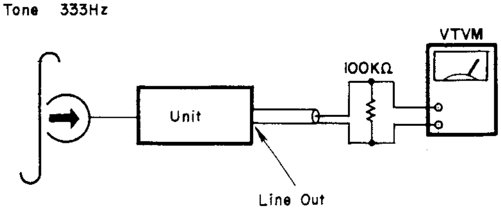
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Load:- Measuring instrument input impedance.
3. Measuring output terminal:- LINE OUT.
4. Test tape used:- MTT-112 (333Hz tone).
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.

PROCEDURES

1. Load the test tape MTT-112. Set up the tape deck to the normal playback state.
2. Read playback output as a 0dB reference. Then playback blank tape and note the output level drop in dB.
3. Proceed both for the right and left channels in the same manner.
4. Repeat the above measurement for each TAPE selector switch position.

Mode: playback



STANDARD

Greater than 45dB.

CAUTIONS

1. Arrange the tape deck power cord for minimum hum component.
2. Effect by induction noises should be minimized for the measurement.
3. When playing the standard reference level tape MTT-112 back, the VU meter indication is close to +2.5 VU and is used as the reference level for the signal-to-noise ratio measurement.

18. Playback Frequency Response Measurement

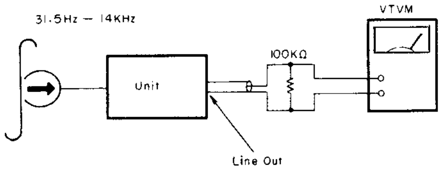
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. TAPE selector switch position:- NORMAL and CrO_2 or Fe-Cr.
3. Load:- Measuring instrument input impedance.
4. Measuring output terminal:- LINE OUT.
5. Test tape used:-
   MTT-116U (for NORMAL).
   MTT-116K (for CrO_2 or Fe-Cr).

PROCEDURES

1. Play the test tape MTT-116U and –116K back. Let the 315Hz output level be OdB as reference level.
2. Read the 40Hz and 10kHz output level differences from the 315Hz, OdB reference level.
3. Proceed both for the right and left channels in the same manner.
4. For the above measurement, use the test tape MTT-116U for the NORMAL position and MTT-116K for the CrO_2 or Fe-Cr.

Mode: playback



STANDARD

In reference to the 315Hz, OdB signal output level,

+3 to –3dB at 40Hz.
+3 to –6dB at 10kHz.

CAUTION

Since the test tapes used may involve some head azimuth difference, the head azimuth should be corrected at the highest frequency of each test tape before measurement.

19. Record-Playback Output Level Measurement (at LINE OUT)

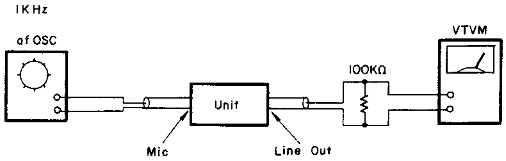
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Load:- Measuring instrument input impedance.
4. Level control positions:- SRL for recording operation.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.
6. Measuring output terminal:-LINE OUT.
7. Cassette tape used:-TDK DC-60, KRC-60 and SONY Fe-Cr.

PROCEDURES

1. Record the 1kHz, –60dB signal in the normal recording state.
2. Play the recorded signal back. Read the VU meter indication.
3. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.
4. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARDS

1. NORMAL position: 730mV ± 3dB.
2. CrO_2 position: 730mV ± 3dB.
3. Fe-Cr position: 730mV ± 3dB.

20. Record-Playback Harmonic Distortion Measurement

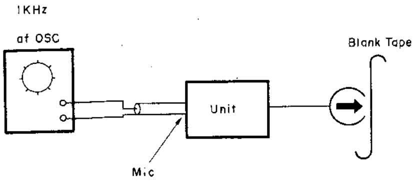
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK DC-60, KRC-60 and SONY Fe-Cr.

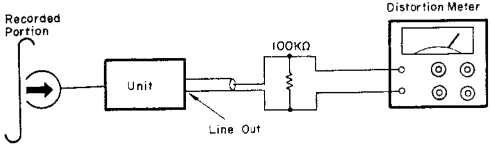
PROCEDURES

1. Record the 1kHz signal in the normal recording state.
2. Play the recorded signal back in the normal playback state. Calibrate the harmonic distortion meter to 100% at the INPUT CONT. Adjust the adjusting knob for minimum meter pointer deflection, and read the harmonic distortion.
3. Proceed both for the right and left channels in the same manner.
4. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.

Mode: record



Mode: playback



STANDARDS

1. Less than 4% for the NORMAL and Fe-Cr positions.
2. Less than 4.5% for the CrO_2 position.

CAUTIONS

1. Be sure to demagnetize the heads as the measured values may deviate from the accurate values.
2. Note that excessive wow and flutter also causes deviation of the measured values.

21. Record-Playback Signal-to-Noise Ratio Measurement

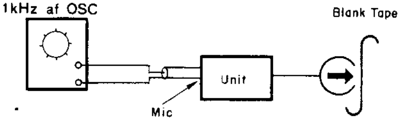
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, –60dB signal.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK DC-60, KRC-60 and SONY Fe-Cr.

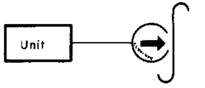
PROCEDURES

1. Record the 1kHz signal in the normal recording state.
2. Disconnect the input signal from the microphone jack. In this state, record no signal.
3. Play the 1kHz signal back in the normal playback state. Let the output level be OdB as reference level.
4. Read difference between the recorded OdB reference output and no-signal output levels.
5. Proceed both for the right and left channels in the same manner.
6. Set the DOLBY switch to the ON position, and proceed with similar measurement with the use of the high-pass filter.

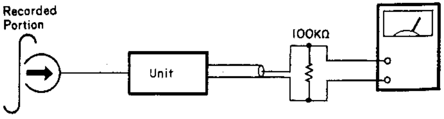
Mode: record



Mode: record



Mode: playback



STANDARDS

1. Greater than 55dB for the ON position of the DOLBY switch.
2. Greater than 45dB for the OFF position of the DOLBY switch.

CAUTION

Arrange the tape deck power cord for minimum hum component.

22. Record-Playback Frequency Response Measurement

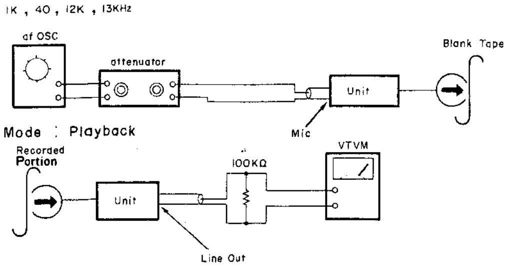
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal with −20dB as OVU.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. Measuring output terminal:- LINE OUT.
6. Cassette tape used:- TDK DC-60, KRC-60 and SONY Fe-Cr.

PROCEDURES

1. Record the 1kHz signal in the normal recording state. In turn, reduce the input level by 20dB with an attenuator. Then, record the 1kHz, 40Hz, 12kHz, and 13kHz signals.
2. Play the recorded 1kHz signal back in the normal playback state.
3. Let the 1kHz, −20dB-down signal level be OdB as reference level. Read difference of the 40Hz, 12kHz and 13kHz signal output levels from the 1kHz signal OdB reference level.
4. Proceed for the NORMAL, CrO_2 and Fe-Cr positions each in the same manner.
5. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARDS

1. NORMAL position:
   +0dB to −6dB at 40Hz
   +3dB to −6dB at 12kHz
   with DOLBY switch at OFF.
2. CrO_2 position:
   +0dB to −6dB at 40Hz
   +2dB to −8dB at 13kHz
   with DOLBY switch at OFF.
3. Fe-Cr position:
   +3dB to −3dB at 40Hz
   +3dB to −3dB at 13kHz
   with DOLBY switch at OFF.
4. NORMAL, CrO_2 and Fe-Cr positions:
   +3dB to −8dB at 40Hz
   +5dB to −8dB at 10kHz
   with DOLBY switch at ON.

23. Erasing Effect Measurement

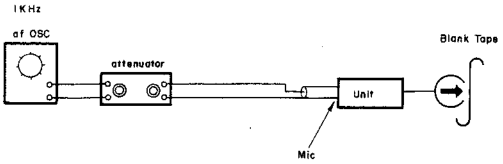
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal with +10dB as 0VU.
3. Playback output level:- Same as the recorded signal level.
4. Load:- Measuring instrument input impedance.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.
6. Cassette tape used:- TDK DC-60, KRC-60 and SONY Fe-Cr.
7. Filter used:- 1kHz band-pass filter.

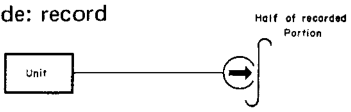
PROCEDURES

1. Record the 1kHz input signal in the normal recording state.
2. In turn, increase the input level by 10dB with the attenuator, and record it.
3. Rewind a half portion of the 10dB-up tape and record in no-signal state, or erase, on the portion with the input signal disconnected from the microphone jack.
4. Play back in the normal playback state the input signal recorded in the normal recording state.
5. In turn, let the 10dB-up recorded signal level be 0dB as reference level. Read difference of the level at the erased portion from the 0dB reference level.

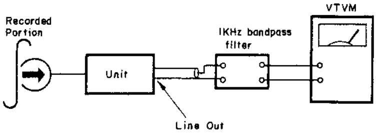
Mode: record



Mode: record



Mode: playback



STANDARD

Greater than 60dB.

24. Leak Bias Measurement

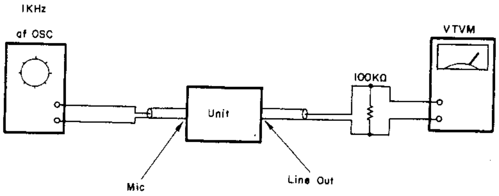
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 1kHz, −60dB signal.
3. Load:- Measuring instrument input impedance.
4. Level control position:- SRL.
5. TAPE selector switch position:- NORMAL, CrO_2 and Fe-Cr.

PROCEDURES

1. Record the 1kHz input signal in the normal recording state. Let the monitor output level at the LINE OUT terminal be 0dB as reference level. Read difference of the output level having the input signal disconnected from the 0dB reference level.
2. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARD

Lower than −50dB.

25. Pan-Pot Characteristic Measurement

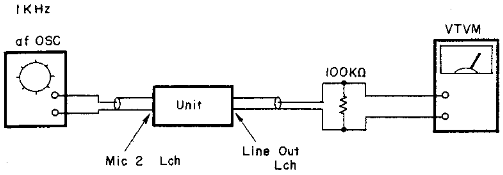
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:-1kHz, −60dB signal.
3. Input terminal:- MIC 2.
4. Measuring output terminal:- LINE OUT.
5. Load:- Measuring instrument input impedance.
6. Pan-pot switch position:- ON.
7. REC/PLAY switch position:- REC.

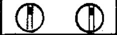
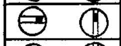
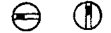
PROCEDURES

1. Connect the 1kHz input signal to the left-channel MIC 2 terminal. Record it in the normal recording state with the pan-pot switch set to the OFF position.
2. Let the output level at the LINE OUT terminal be OdB as reference level. Turn the pan-pot control set at each position.
3. Proceed also for the right channel, with the input signal applied to the right-channel MIC 2 terminal.

Mode: record



STANDARD

PAN-POT SW POSITION		L CHANNEL	R CHANNEL
OFF		(OVU)	(OVU)
ON		OVU-6dB±3dB	OVU-6dB±3dB
			OVU+2dB±3dB
		OVU+2dB±3dB	

NOTE: For the input application to the right channel, the above characteristics are reverse.

26. FM Deemphasis Measurement

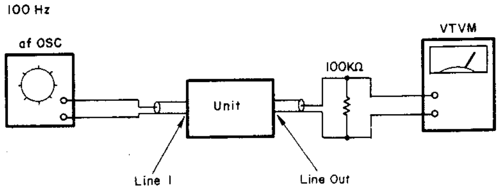
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 100Hz, −10dB signal.
3. Input terminal:- LINE 1.
4. Output terminal:- LINE OUT.
5. SYSTEM switch position:- INTERNAL.
6. DOLBY switch position:- ON.
7. REC/PLAY switch position:- REC.

PROCEDURES

1. Connect the 100Hz, −10dBV input signal to the LINE 1 terminal. Adjust the FM CAL control for OVU output level with the DEEMPHASIS switch set at the FLAT position.
2. Let the above output level at the LINE OUT terminal be OdB as reference level. Set the DEEMPHASIS switch to the 25μsec position and read output level differences of 5kHz and 10kHz from 100Hz.
3. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARD

FREQ.	FOR U AND C	FOR N
5kHz	+6 ± 2dB	+3.5 ± 2dB
10kHz	+8.5 ± 2dB	+5 ± 2dB

27. Dolby Encoder Characteristic Measurement

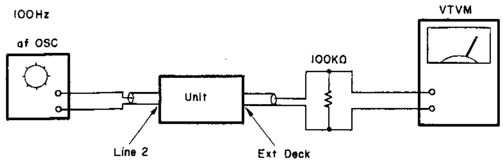
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 100Hz, −10dB signal.
3. Input terminal:- LINE 2.
4. Output terminal:- EXT. DECK.
5. SYSTEM switch position:- EXTERNAL.
6. DOLBY switch position:- ON.
7. REC pushswitch position:- "In".

PROCEDURES

1. Connect the 100Hz, −10dB input signal to the LINE 2 terminal. Depress the REC pushbutton in and adjust the REC control for OVU output level.
2. Decrease the input level by 30dB with the attenuator and let the output level at the EXT. DECK terminal be OdB. Read output level differences of 1kHz, 5kHz and 10kHz from 100Hz.
3. Proceed both for the right and left channels in the same manner.

Mode: record



STANDARD

1kHz: +5.5dB ± 2dB.
5kHz: +7.5dB ± 2dB.
10kHz: +5.5dB ± 2dB.

28. Dolby Decoder Characteristic Measurement

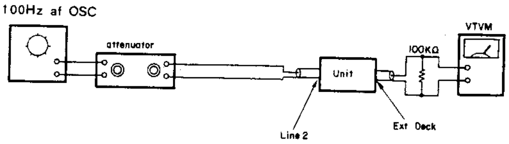
SET UP

1. Power voltage:- 50 or 60Hz a-c voltage rated for the unit to be used in a market country.
2. Input:- 100Hz, −10dB signal.
3. Input terminal:- LINE 2.
4. Output terminal:- EXT DECK.
5. SYSTEM switch position:- EXTERNAL.
6. DOLBY switch position:- ON.
7. REC/PLAY switch position:- PLAY (or STOP state).

PROCEDURES

1. Connect the 100Hz, −10dBV input signal to the LINE 2 terminal. Adjust the PLAY CAL control for OVU output level.
2. Decrease the input level by 30dB with the attenuator and let the output level at the EXT. DECK terminal be OdB. Read output level difference of 1kHz, 5kHz, and 10kHz from 100Hz.
3. Proceed both for the right and left channels in the same manner.

Mode: playback



STANDARD

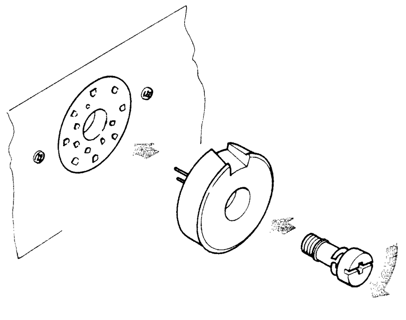
1kHz: −5.5dB ±2dB.
5kHz: −10dB ±2dB.
10kHz: −10dB ±2dB.

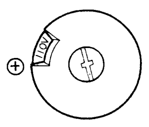
7. VOLTAGE CONVERSION (For European Model Only)

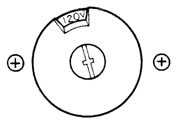
This Model is equipped with a universal power transformer to permit operation at either power source of 110, 120, 220 or 240 V AC, 50/60 Hz.

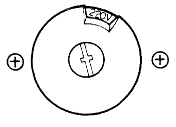
To convert the unit to a different power source voltage, change the plug as illustrated in the drowing below.

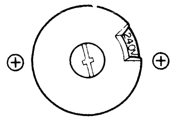
CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.




For 110V Operation

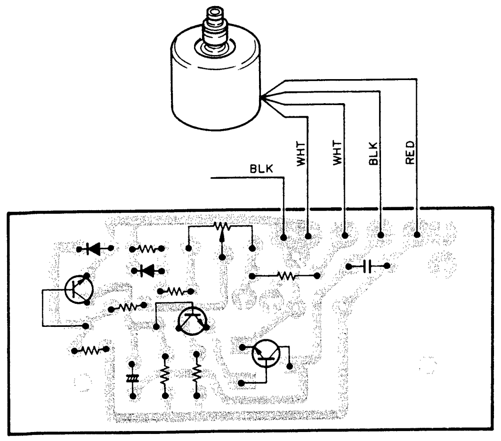

For 120V Operation

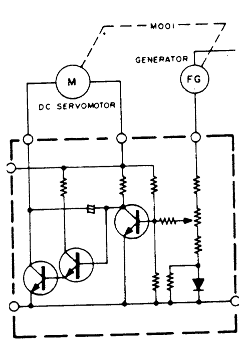

For 220V Operation


For 240V Operation

8. MOUNTING SHCEMATIC DIAGRAM AND CAUTION FOR MOTOR

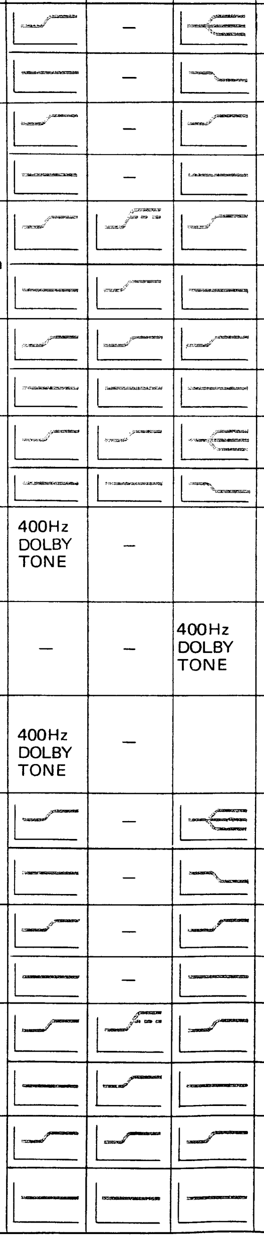
If replacing the motor, be sure to replace the motor together with the motor servo board as they are combined into a single unit as an individual replacement part. Note also that each of the transistors, diode, capacitor and resistors installed on the motor servo board is not available as the individual replacement part.



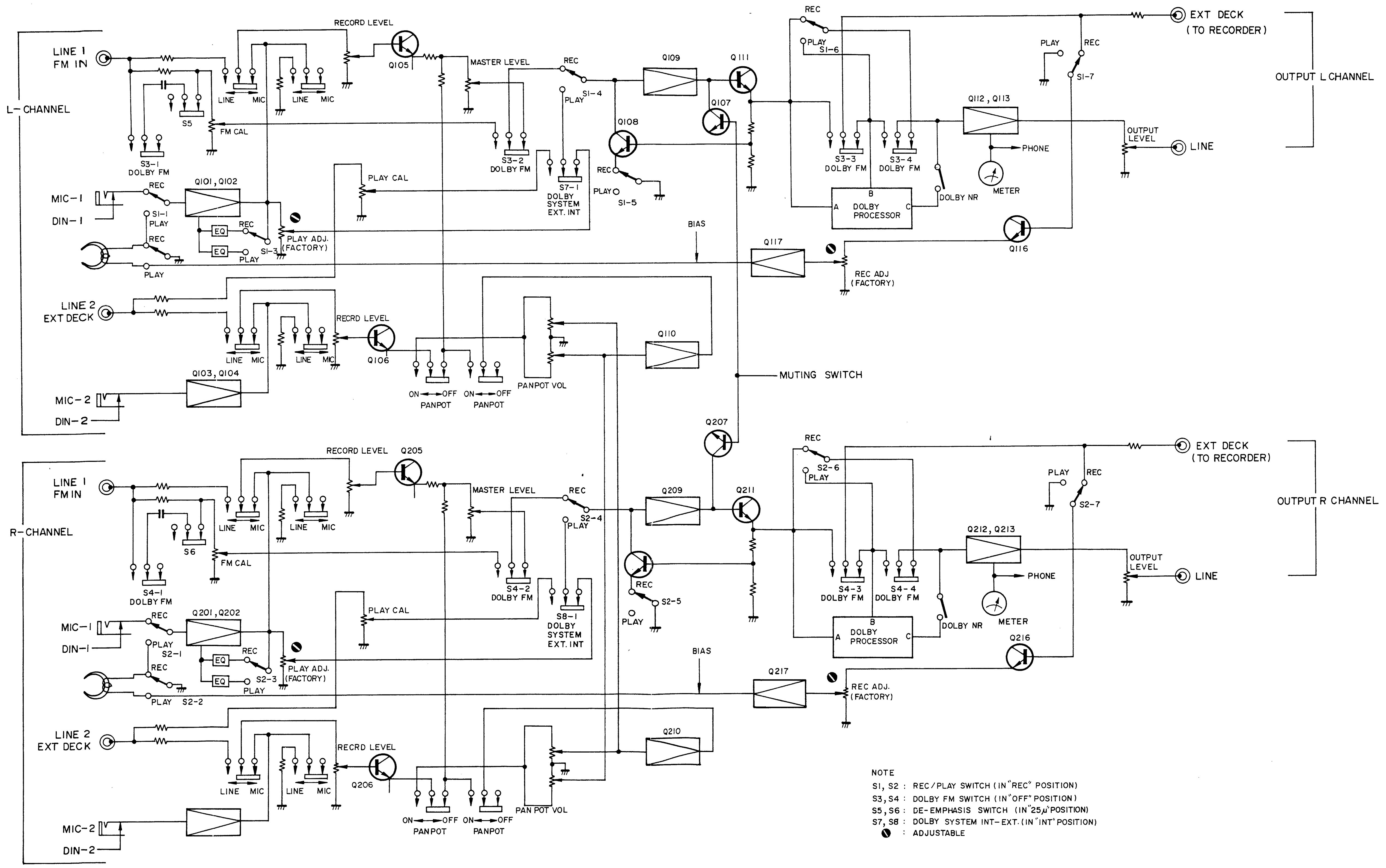


9. HOW TO USE 5420 DOLBY SYSTEM

Use	Connections	Input	Deck Mode	Level Adj.	5420 Function Switches					Signal State			
					DOLBY NR	DOLBY System	DOLBY FM	De-emphasis	Mic/ Line in	Input	Rec. Out Rec. Amp	Output	Result
Play back	5420 LINE (Line output) – Amp AUX Tape In	Re-corded Tape	Play	Output Level Cont. (Rear)	ON	IN-TERNAL	–	–	–		–		Good
											–		Wrong
					OFF	IN-TERNAL	–	–	–		–		Wrong
											–		Good
Record	Amp Tape Out/ Rec Out – 5420 LINE (Line Input)	LINE -1	Rec	Record Level Cont.	ON	IN-TERNAL	OFF	–	Both position OK				Wrong
		LINE -2											Good
	Microphone – 5420 Mic	MIC -1		Master Level Cont. (Front)	OFF	IN-TERNAL	OFF	–	Both position OK				Wrong
		MIC -2											Good
DOLBY FM	Tuner – 5420 LINE 1/FM IN & 5420 LINE (Line Output) – Amp. AUX Tape in	LINE 1/ FM IN	Rec	FM CAL (Rear)	ON	–	ON	25µ	–				Good
													Wrong
Other Tape Recorder Play CAL for Decode	Other Tape Recorder Output –5420 LINE 2/ EXT DECK (from Recorder)	LINE 2/ EXT DECK	STOP or PLAY	Play CAL (Rear)	ON	EX-TERNAL	–	–	–	400Hz DOLBY TONE	–		Good
Other Tape Recorder Rec CAL for Encode	(Beginning) 5420 EXT DECK –Other Tape Re-corder Input (to Recorder)	Head	PLAY	–	ON	IN-TERNAL	–	–	–	–	–	400Hz DOLBY TONE	Good
	(Next) Other Tape Re-corder Output – 5420 LINE 2/ EXT DECK	LINE 2/ EXT DECK	STOP or PLAY	Don't touch Play CAL	ON	EX-TERNAL	–	–	–	400Hz DOLBY TONE	–		Good
DOLBY UNIT (DE-CODER)	Other Tape Re-corder Output – 5420 LINE 2/ EXT DECK & 5420 LINE (Line Output) – Amp. AUX Tape in	LINE 2/ EXT DECK	STOP or PLAY	OUTPUT LEVEL Cont.	ON	EX-TERNAL	–	–	–		–		Good
											–		Wrong
				Don't touch Play CAL	OFF	EX-TERNAL	–	–	–		–		Wrong
											–		Good
DOLBY UNIT (ENCODER)	Amp Tape Out/ Rec Out – 5420 LINE (Line Input) or	LINE-1	Rec	Record Level Cont.	ON	EX-TERNAL	OFF	–	Both position OK				Wrong
		LINE-2											Good
	Microphone – 5420 Mic in & 5420 EXT DECK (to Recorder) – Other Tape Re-corder Input	MIC-1		Master Level Cont.	OFF	EX-TERNAL	OFF	–	Both position OK				Wrong
		MIC-2											Good



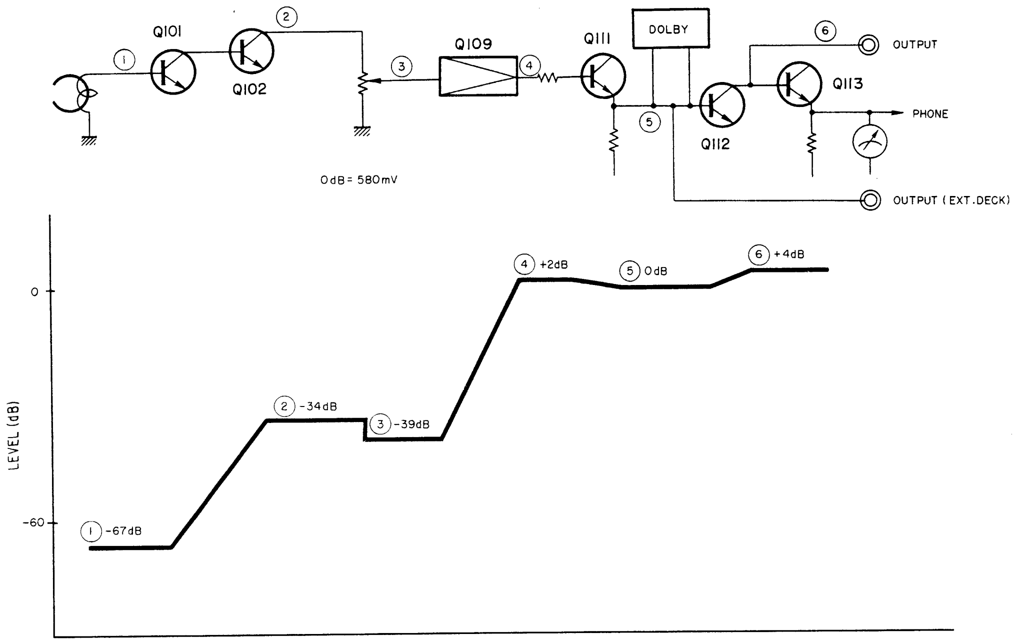
10. BLOCK DIAGRAM


L-CHANNEL
LINE 1
FM IN
S5
S3-1
DOLBY FM
FM CAL
RECORD LEVEL
Q105
LINE
MIC
MASTER LEVEL
REC
S1-4
PLAY
Q109
Q111
Q107
Q108
REC
PLAY
S1-5
S3-2
DOLBY FM
S7-1
DOLBY
SYSTEM
EXT. INT
MIC-1
DIN-1
Q101, Q102
S1-1
EQ
S1-3
PLAY ADJ.
(FACTORY)
PLAY CAL
BIAS
Q117
REC ADJ
(FACTORY)
LINE 2
EXT DECK
RECRD LEVEL
Q106
Q103, Q104
MIC-2
DIN-2
ON OFF
PANPOT
PANPOT VOL
Q110
MUTING SWITCH
S1-6
S3-3
DOLBY FM
S3-4
DOLBY FM
Q112, Q113
PHONE
METER
DOLBY NR
DOLBY
PROCESSOR
A
B
C
Q116
S1-7
EXT DECK
(TO RECORDER)
OUTPUT
LEVEL
LINE
OUTPUT L CHANNEL
R-CHANNEL
S6
S4-1
DOLBY FM
Q205
S2-4
Q209
Q211
Q207
S2-5
S4-2
DOLBY FM
S8-1
DOLBY
SYSTEM
EXT. INT
Q201, Q202
S2-1
S2-2
S2-3
Q217
Q206
Q210
PAN POT VOL
S2-6
S4-3
DOLBY FM
S4-4
DOLBY FM
Q212, Q213
Q216
S2-7
OUTPUT R CHANNEL

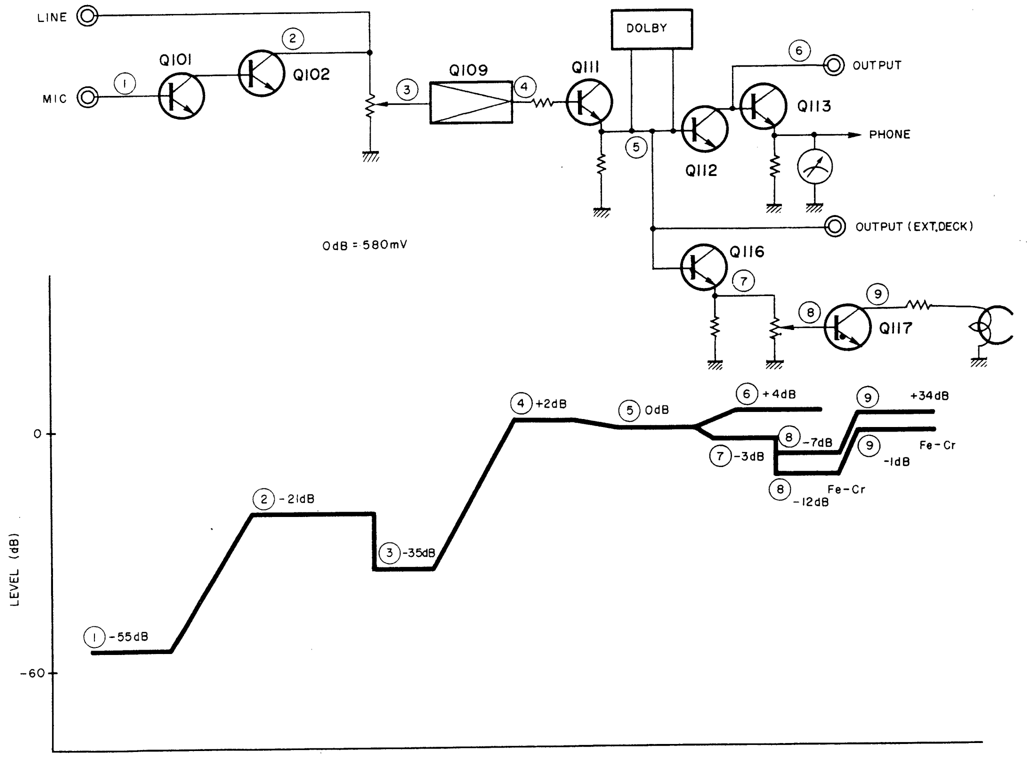
NOTE
S1, S2 : REC/PLAY SWITCH (IN "REC" POSITION)
S3, S4 : DOLBY FM SWITCH (IN "OFF" POSITION)
S5, S6 : DE-EMPHASIS SWITCH (IN "25μ" POSITION)
S7, S8 : DOLBY SYSTEM INT-EXT. (IN "INT" POSITION)
● : ADJUSTABLE

11 LEVEL DIAGRAMS

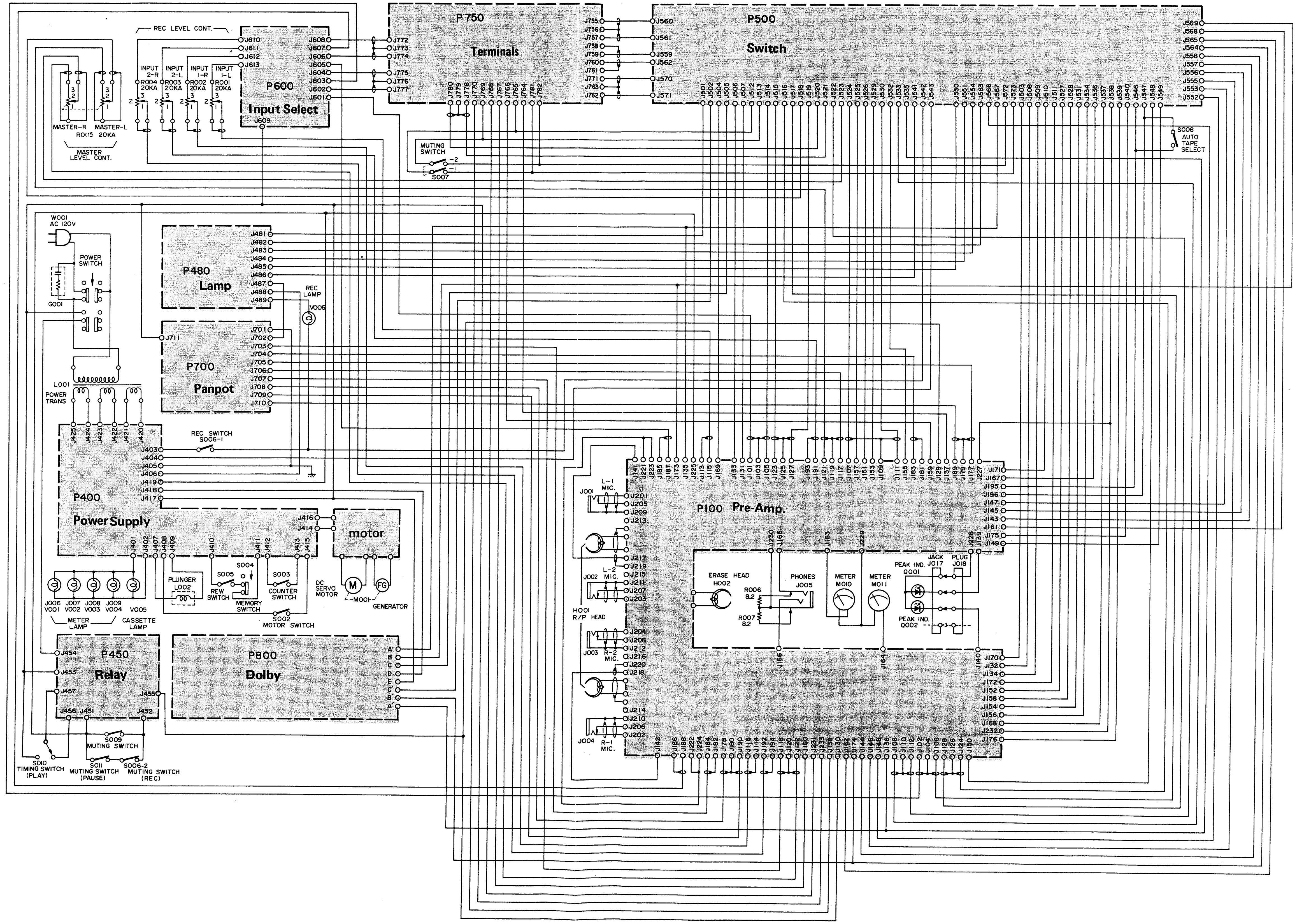
Playback


Q101
Q102
Q109
Q111
DOLBY
Q112
Q113
OUTPUT
PHONE
OUTPUT (EXT.DECK)
0dB= 580mV
LEVEL (dB)
0
-60
① -67dB
② -34dB
③ -39dB
④ +2dB
⑤ 0dB
⑥ +4dB

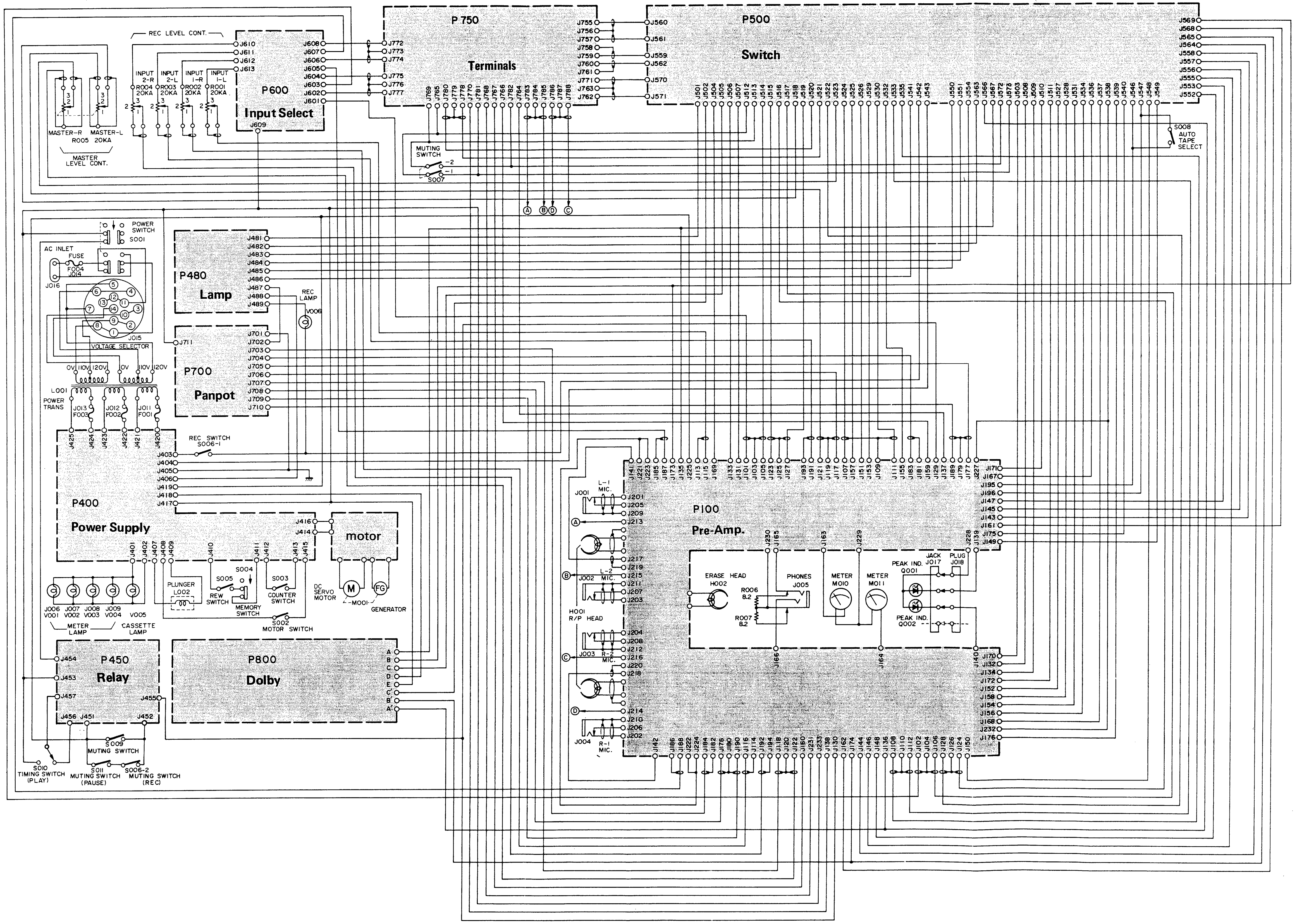
Record


LINE
MIC
Q101
Q102
Q109
Q111
DOLBY
Q112
Q113
OUTPUT
PHONE
OUTPUT (EXT.DECK)
Q116
Q117
0dB = 580mV
LEVEL (dB)
0
-60
① -55dB
② -21dB
③ -35dB
④ +2dB
⑤ 0dB
⑥ +4dB
⑦ -3dB
⑧ -7dB
⑧ Fe-Cr -12dB
⑨ +34dB
⑨ Fe-Cr -1dB

12. INTERCONNECTION DIAGRAMS (A) for U.S.A and Canada


P750
Terminals
P500
Switch
P600
Input Select
REC LEVEL CONT.
INPUT 2-R
INPUT 2-L
INPUT 1-R
INPUT 1-L
R004 20KA
R003 20KA
R002 20KA
R001 20KA
MASTER-R
MASTER-L
R005 20KA
MASTER LEVEL CONT.
MUTING SWITCH
S007
S008 AUTO TAPE SELECT
W001 AC 120V
POWER SWITCH
G001
L001 POWER TRANS
P480
Lamp
REC LAMP
V006
P700
Panpot
P400
Power Supply
REC SWITCH S006-1
motor
PLUNGER L002
S005 REW SWITCH
S004 MEMORY SWITCH
S003 COUNTER SWITCH
S002 MOTOR SWITCH
DC SERVO MOTOR
M001
GENERATOR
J006 J007 J008 J009
V001 V002 V003 V004 V005
METER LAMP
CASSETTE LAMP
P450
Relay
P800
Dolby
S009 MUTING SWITCH
S010 TIMING SWITCH (PLAY)
S011 MUTING SWITCH (PAUSE)
S006-2 MUTING SWITCH (REC)
P100 Pre-Amp.
J001 L-1 MIC.
J002 L-2 MIC.
H001 R/P HEAD
J003 R-2 MIC.
J004 R-1 MIC.
ERASE HEAD H002
R006 8.2
R007 8.2
PHONES J005
METER M010
METER M011
PEAK IND. Q001
JACK J017
PLUG J018
PEAK IND. Q002

(B) for Europe


P 750
Terminals
P500
Switch
REC LEVEL CONT.
INPUT 2-R R004 20KA
INPUT 2-L R003 20KA
INPUT 1-R R002 20KA
INPUT 1-L R001 20KA
MASTER-R MASTER-L R005 20KA
MASTER LEVEL CONT.
P600
Input Select
MUTING SWITCH S007
S008 AUTO TAPE SELECT
POWER SWITCH S001
AC INLET
FUSE F004 J014
J016
J015
VOLTAGE SELECTOR
0V 110V 120V
L001 POWER TRANS
F003 F002 F001
P480
Lamp
REC LAMP V006
P700
Panpot
REC SWITCH S006-1
P400
Power Supply
motor
PLUNGER L002
S005
REW SWITCH
S004
MEMORY SWITCH
S003
COUNTER SWITCH
DC SERVO MOTOR
M
FG
M001
GENERATOR
S002 MOTOR SWITCH
J006 V001 J007 V002 J008 V003 J009 V004 V005
METER LAMP
CASSETTE LAMP
P450
Relay
P800
Dolby
S009 MUTING SWITCH
S010 TIMING SWITCH (PLAY)
S011 MUTING SWITCH (PAUSE)
S006-2 MUTING SWITCH (REC)
P100
Pre-Amp.
J001 L-1 MIC.
J002 L-2 MIC.
H001 R/P HEAD
J003 R-2 MIC.
J004 R-1 MIC.
ERASE HEAD H002
R006 8.2
R007 8.2
PHONES J005
METER M010
METER M011
JACK J017
PLUG J018
PEAK IND. Q001
PEAK IND. Q002
A
B
C
D

13. MOUNTING/SCHEMATIC DIAGRAMS

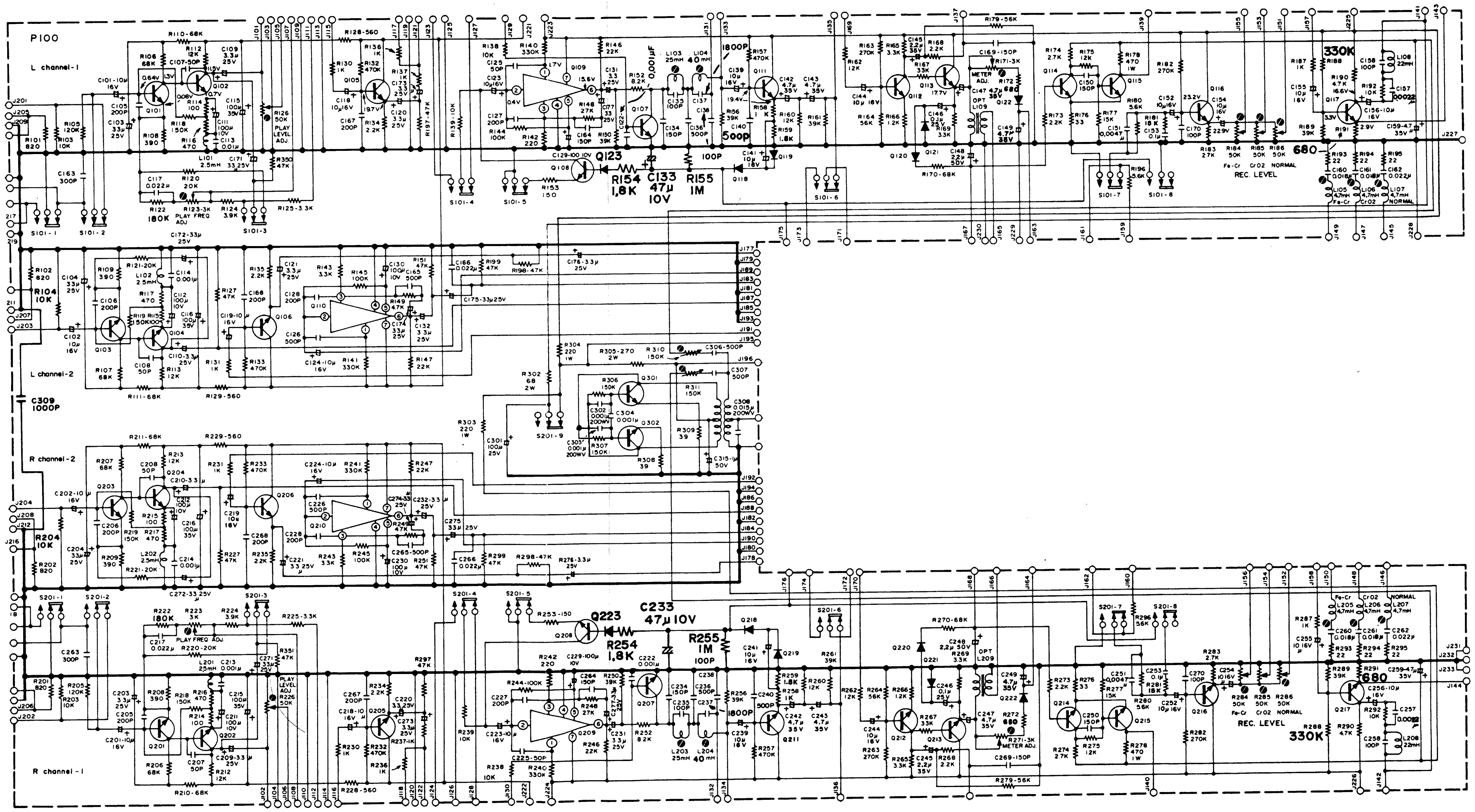

P100
L channel-1
L channel-2
R channel-2
R channel-1
PLAY LEVEL ADJ
PLAY FREQ ADJ
REC. LEVEL
METER ADJ
Fe-Cr
CrO2
NORMAL
S101-1
S101-2
S101-3
S101-4
S101-5
S101-6
S101-7
S101-8
S201-9
S201-1
S201-2
S201-3
S201-4
S201-5
S201-6
S201-7
S201-8
Q123
R154 1,8K
C133 47μ 10V
R155 1M
1800P
0.001μF
500P
100P
330K
680
C309 1000P
R104 10K
R204 10K
Q223
C233 47μ 10V
R254 1,8K
R255 1M

Figure 1. P100-Circuit Diagram

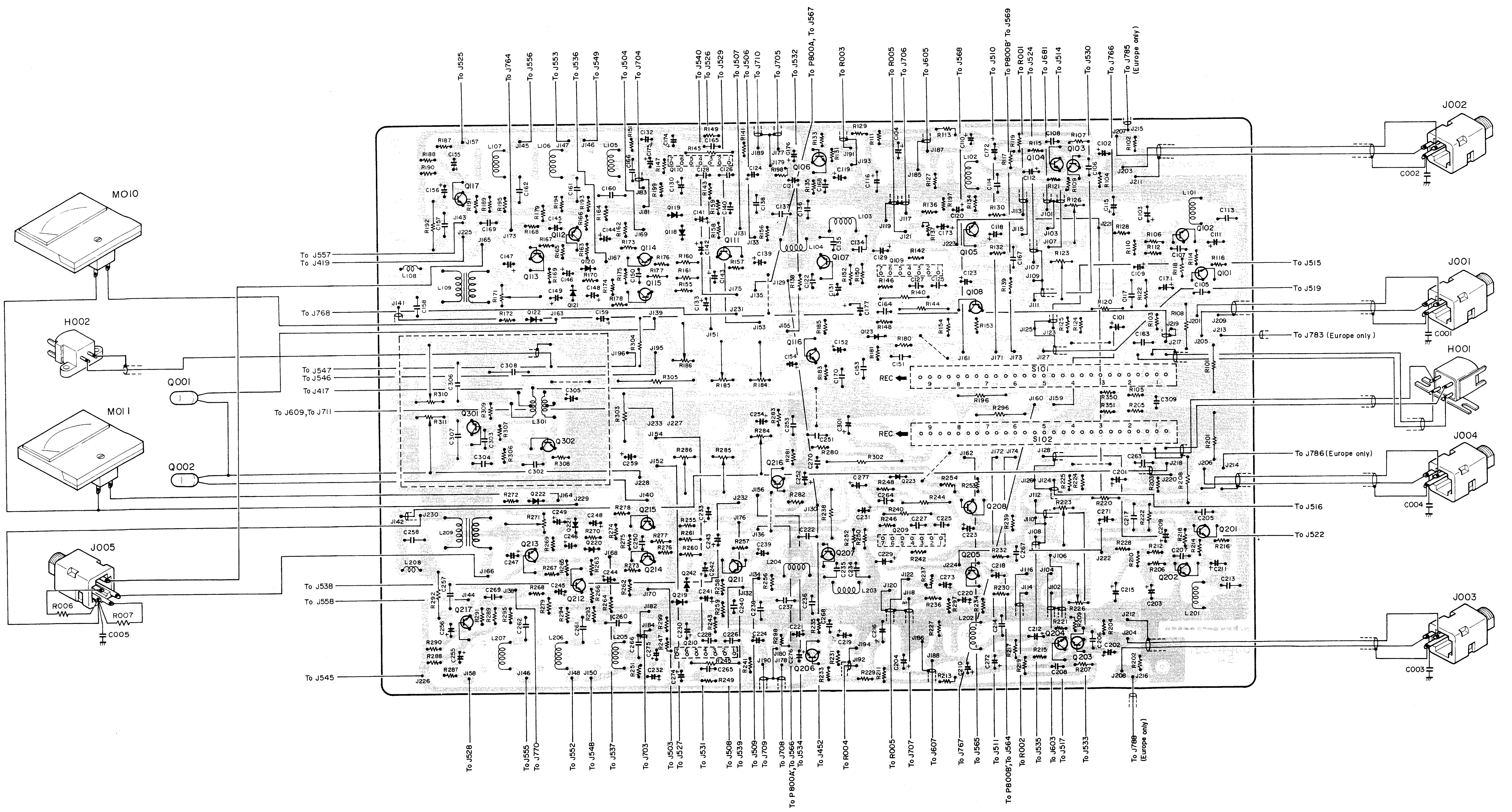

To J525
To J764
To J556
To J553
To J536
To J549
To J504
To J704
To J540
To J526
To J529
To J507
To J506
To J710
To J705
To J532
To P800A, To J567
To R003
To R005
To J706
To J605
To J568
To J510
To P800B, To J569
To R001
To J524
To J681
To J514
To J530
To J766
To J785 (Europe only)
M010
To J557
To J419
H002
To J768
Q001
To J547
To J546
To J417
To J609, To J711
M011
Q002
J005
To J538
To J558
R006
R007
C005
To J545
REC
S101
REC
S102
J002
C002
To J515
J001
To J519
C001
To J783 (Europe only)
H001
To J786 (Europe only)
J004
C004
To J516
To J522
J003
C003
To J528
To J555
To J770
To J552
To J548
To J537
To J703
To J503
To J527
To J531
To J508
To J539
To J509
To J709
To J708
To P800A, To J566
To J534
To J452
To R004
To R005
To J707
To J607
To J767
To J565
To J511
To P800B, To J564
To R002
To J535
To J603
To J517
To J533
To J788 (Europe only)

Figure 2. Pre-Amp. Assembly P100 Component Locations

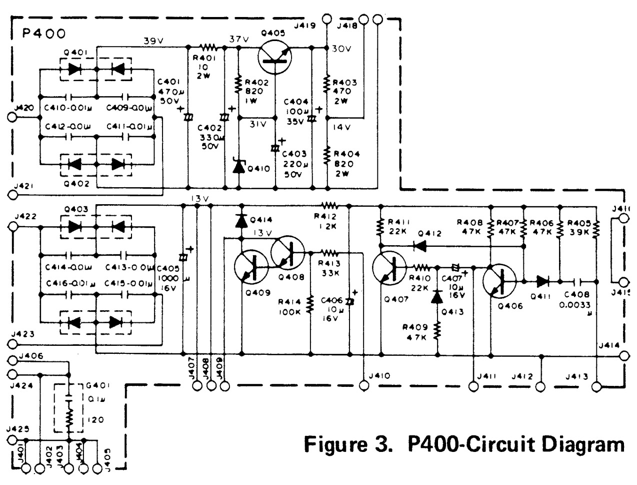

P400
Q401
Q402
Q403
Q405
Q406
Q407
Q408
Q409
Q410
Q411
Q412
Q413
Q414
39V
37V
30V
31V
14V
13V
G401
J406
J407
J408
J409
J410
J411
J412
J413
J414
J418
J419
J420
J421
J422
J423
J424
J425

Figure 3. P400-Circuit Diagram

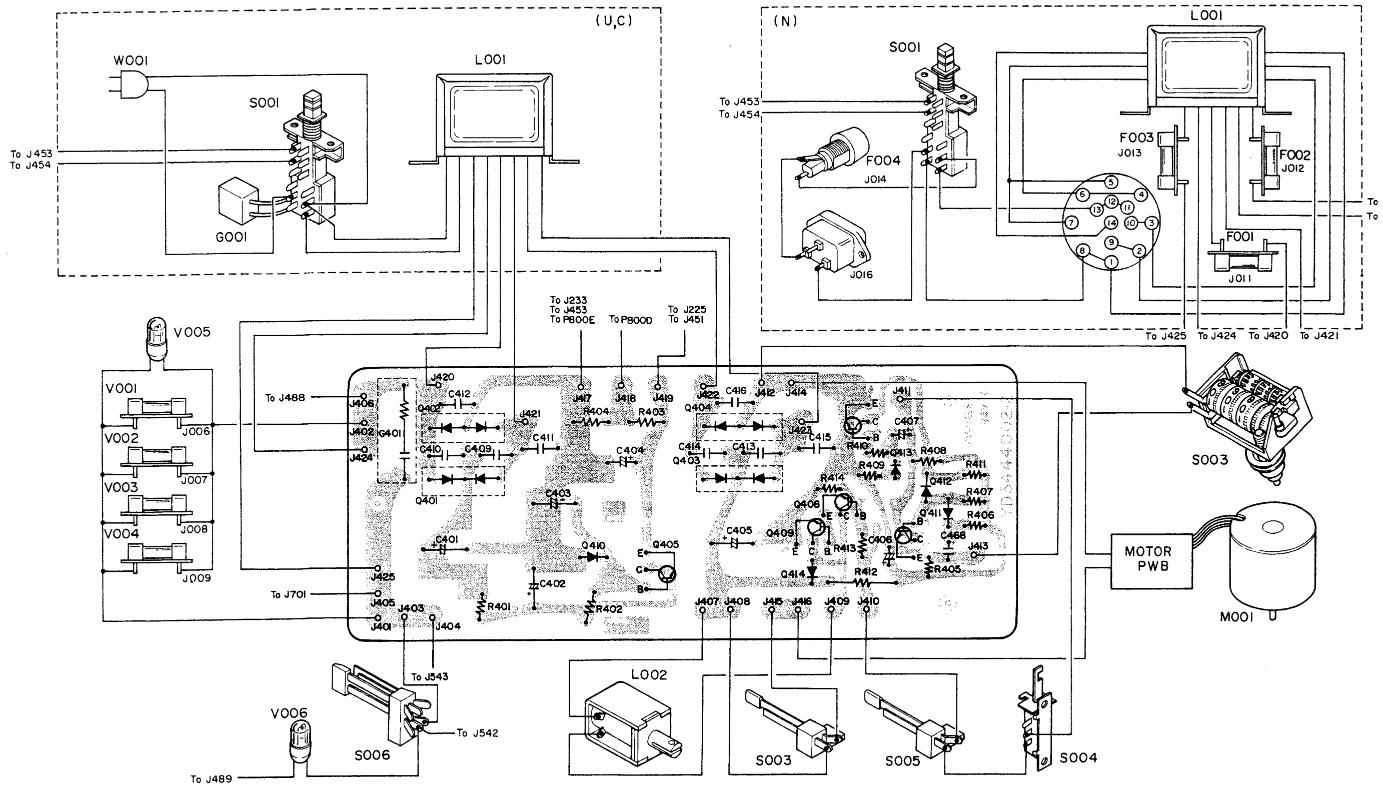

(U,C)
(N)
W001
S001
L001
G001
F002
F003
F004
J012
J013
J014
J016
J011
F001
To J453
To J454
To J423
To J422
To J425
To J424
To J420
To J421
To J233
To J453
To P800E
To P800D
To J225
To J451
V005
V001
V002
V003
V004
J006
J007
J008
J009
To J488
To J701
To J543
To J542
V006
To J489
S006
L002
S003
S005
S004
MOTOR PWB
M001

Figure 4. Power Supply Assembly P400 Component Locations

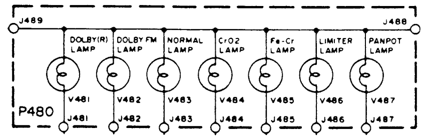

J489
J488
DOLBY(R) LAMP
DOLBY FM LAMP
NORMAL LAMP
CrO2 LAMP
Fe-Cr LAMP
LIMITER LAMP
PANPOT LAMP
V481
V482
V483
V484
V485
V486
V487
P480
J481
J482
J483
J484
J485
J486
J487

Figure 5. P480-Circuit Diagram

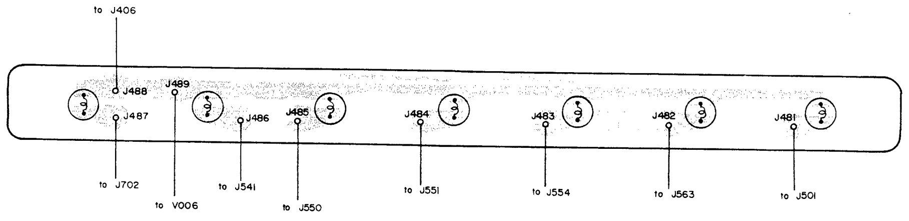

to J406
J488
J487
J489
J486
J485
J484
J483
J482
J481
to J702
to V006
to J541
to J550
to J551
to J554
to J563
to J501

Figure 6. Lamp Assembly P480 Component Locations

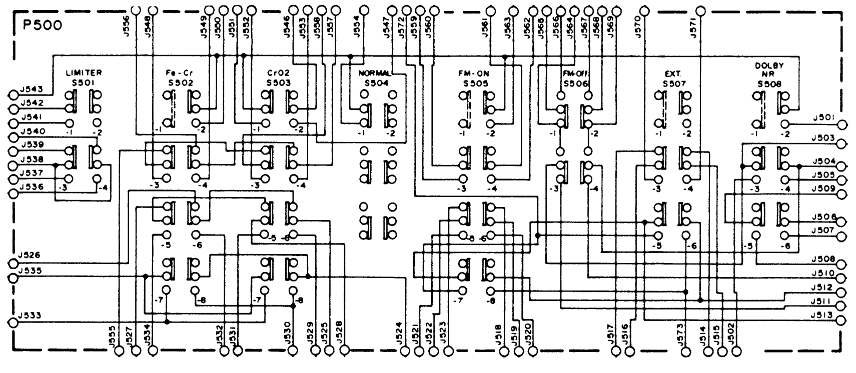

P500
LIMITER S501
Fe-Cr S502
CrO2 S503
NORMAL S504
FM-ON S505
FM-OFF S506
EXT S507
DOLBY NR S508

Figure 7. P500-Circuit Diagram

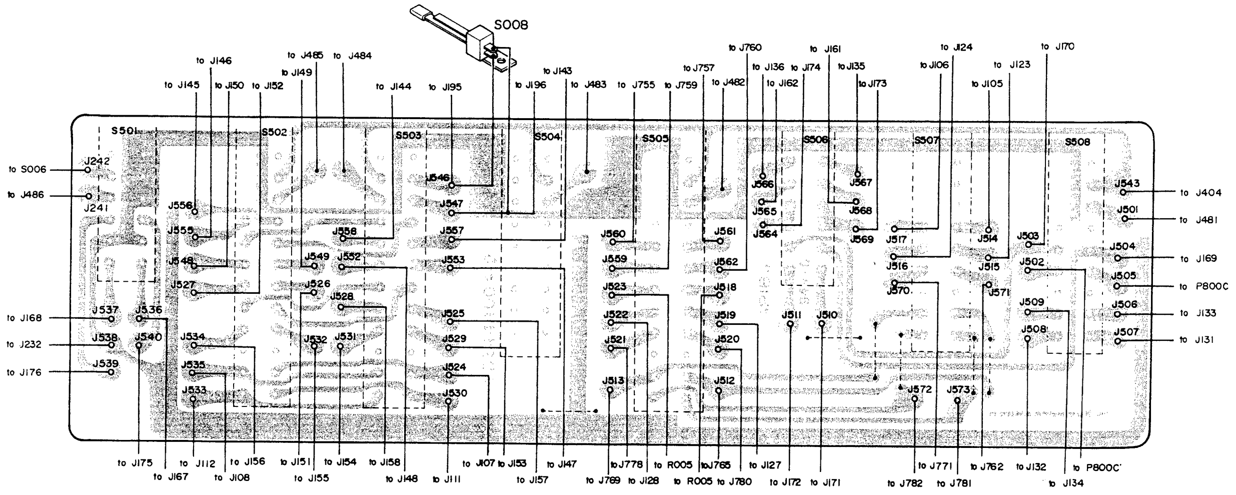

S008
S501
S502
S503
S504
S505
S506
S507
S508
to S006
to J486
to J168
to J232
to J176
to J404
to J481
to J169
to P800C
to J133
to J131

Figure 8. Switch Assembly P500 Component Locations

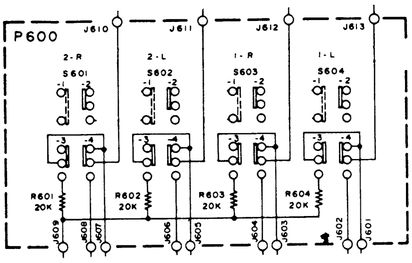

P600
J610
J611
J612
J613
2-R
S601
2-L
S602
1-R
S603
1-L
S604
R601 20K
R602 20K
R603 20K
R604 20K
J609
J608
J607
J606
J605
J604
J603
J602
J601

Figure 9. P600-Circuit Diagram

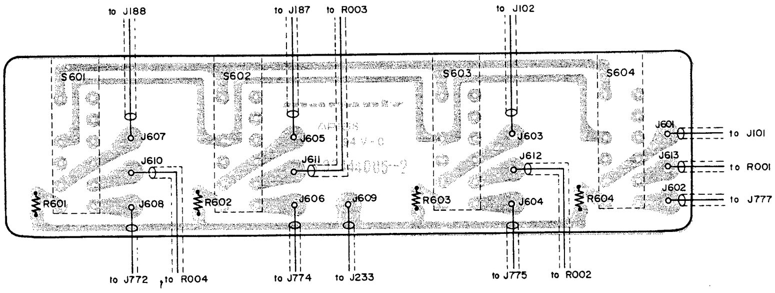

to J188
to J187
to R003
to J102
S601
S602
S603
S604
J607
J610
J608
R601
J605
J611
J606
J609
R602
J603
J612
J604
R603
R604
J601
J613
J602
to J101
to R001
to J777
to J772
to R004
to J774
to J233
to J775
to R002

Figure 10. Input Select Assembly P600 Component Locations

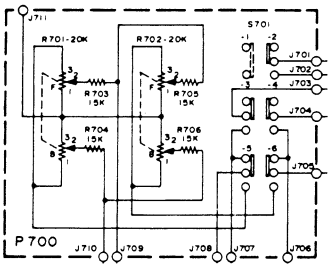

J711
R701-20K
R702-20K
S701
R703 15K
R705 15K
R704 15K
R706 15K
J701
J702
J703
J704
J705
P700
J710
J709
J708
J707
J706

Figure 11. P700-Circuit Diagram

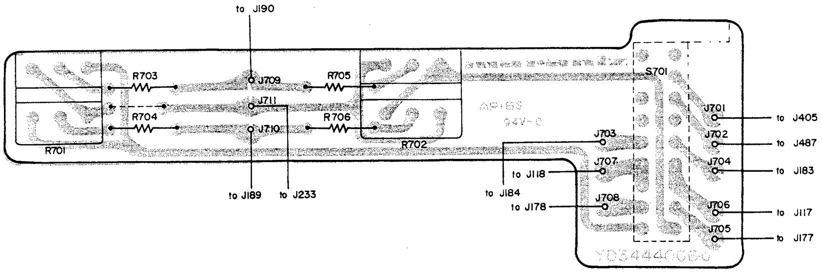

to J190
R703
J709
R705
J711
R704
J710
R706
R701
R702
S701
J701
J702
J703
J704
J707
J706
J708
J705
to J405
to J487
to J183
to J117
to J177
to J118
to J184
to J178
to J189
to J233

Figure 12. Panpot Assembly P700 Component Locations

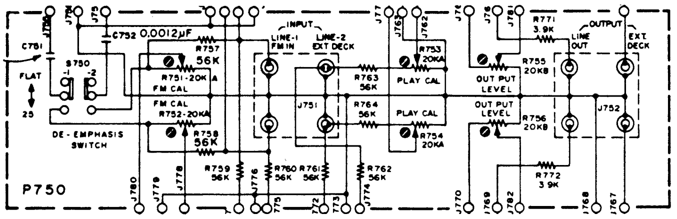

P750
C751
C752 0.0012µF
S750
FLAT
25
DE-EMPHASIS SWITCH
R757 56K
R751-20K FM CAL
R752-20K FM CAL
R758 56K
R759 56K
R760 R761 56K 56K
R762 56K
INPUT
LINE-1 FM IN
LINE-2 EXT DECK
J751
R763 56K
R764 56K
R753 20KA PLAY CAL
R754 20KA PLAY CAL
OUT PUT LEVEL
R755 20KB
R756 20KB
R771 3.9K
R772 3.9K
OUTPUT
LINE OUT
EXT DECK
J752

Figure 13. P750-Circuit Diagram

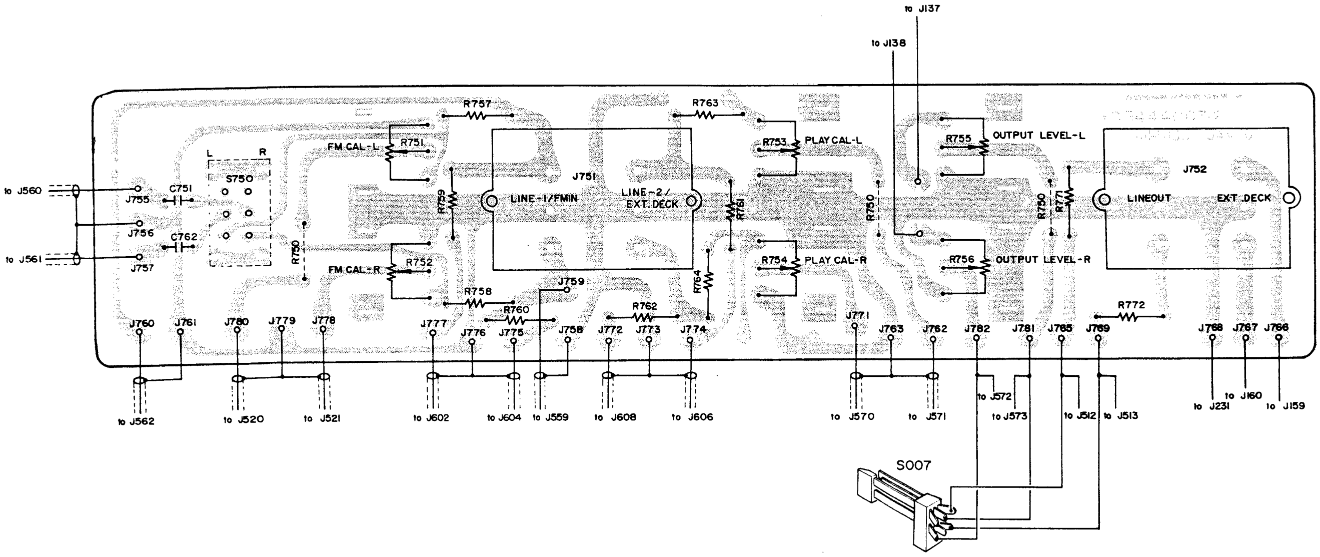

to J137
to J138
R757
R763
FM CAL-L
R751
S750
L
R
C751
C762
J755
J756
J757
to J560
to J561
J751
LINE-1/FMIN
LINE-2/ EXT. DECK
R759
R761
R753
PLAY CAL-L
R754
PLAY CAL-R
R755
OUTPUT LEVEL-L
R756
OUTPUT LEVEL-R
R750
R771
J752
LINEOUT
EXT. DECK
FM CAL-R
R752
R758
R760
R762
R764
J759
R772
J760 J761 J780 J779 J778 J777 J776 J775 J758 J772 J773 J774 J771 J763 J762 J782 J781 J765 J769 J768 J767 J766
to J562
to J520
to J521
to J602
to J604
to J559
to J608
to J606
to J570
to J571
to J572
to J573
to J512
to J513
to J160
to J231
to J159
S007

Figure 14. Terminals Assembly P750 Component Locations

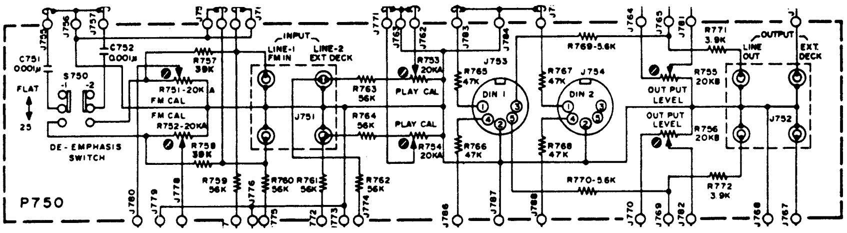

P750
C751 0.001µ
C752 0.001µ
S750
FLAT
25
DE-EMPHASIS SWITCH
R757 39K
R751-20K FM CAL
R752-20KA FM CAL
R758 39K
R759 56K
R760 R761 56K 56K
R762 56K
INPUT
LINE-1 FM IN
LINE-2 EXT DECK
J751
R763 56K
R764 56K
R753 20KA PLAY CAL
R754 20KA PLAY CAL
R765 47K
R766 47K
J753 DIN 1
R769-5.6K
R767 47K
J754 DIN 2
R768 47K
R770-5.6K
OUT PUT LEVEL
R755 20KB
R756 20KB
R771 3.9K
R772 3.9K
OUTPUT
LINE OUT
EXT DECK
J752

Figure 13. P750-Circuit Diagram (For European Model)

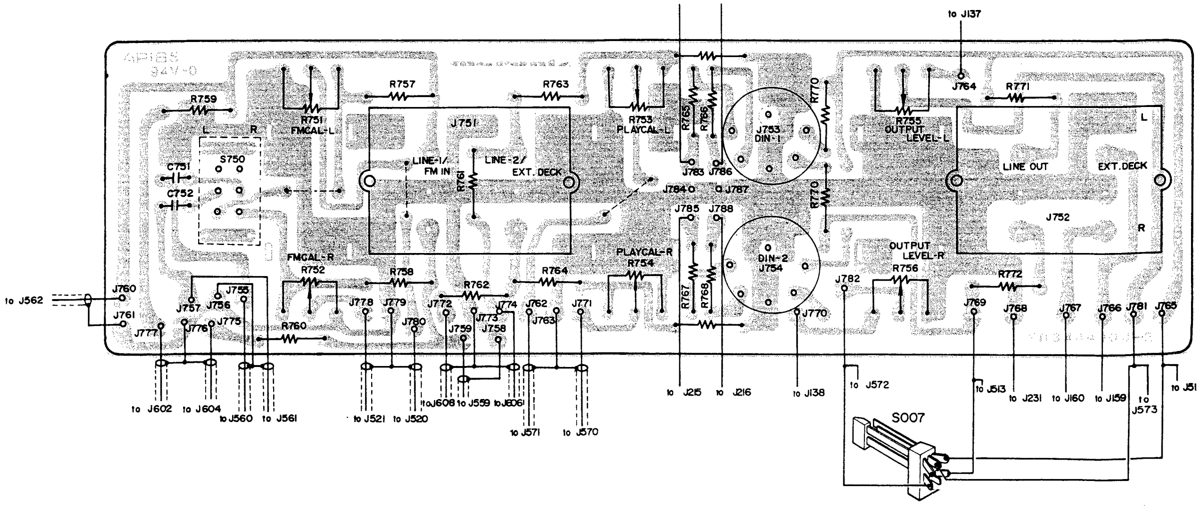

to J213
to J214
to J137
4P185 94V-0
R759
R757
R763
R751 FMCAL-L
J751
R753 PLAYCAL-L
R765
R766
R770
J753 DIN-1
J764
R771
R755 OUTPUT LEVEL-L
L
S750
C751
C752
LINE-1/ FM IN
LINE-2/ EXT. DECK
R761
J783 J786
J784 J787
J785 J788
LINE OUT
EXT.DECK
J752
R
FMCAL-R
R752
R758
R762
R764
PLAYCAL-R
R754
DIN-2 J754
OUTPUT LEVEL-R
R756
R772
R767
R768
J782
J760
J761
J777
J757 J756 J755
J776 J775
R760
J778 J779 J772 J780 J773 J774 J759 J758 J762 J763 J771
J770
J769 J768 J767 J766 J781 J765
to J562
to J602
to J604
to J560
to J561
to J521
to J520
to J608
to J559
to J606
to J571
to J570
to J215
to J216
to J138
to J572
to J513
to J231
to J160
to J159
to J573
to J512
S007

Figure 14. Terminals Assembly P750 Component Locations (For European Model)

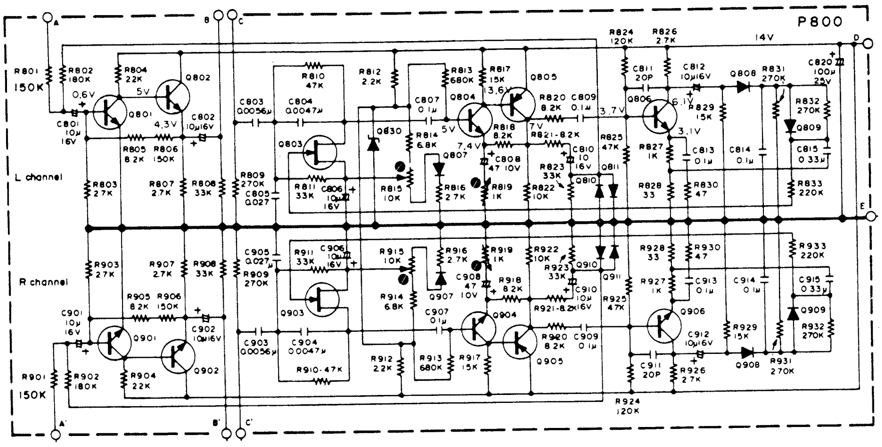

P800
A
B
C
D
E
A'
B'
C'
L channel
R channel
R801 150K
R802 180K
R804 22K
Q801
Q802
C801 10µ 16V
C802 10µ16V
R805 8.2K
R806 150K
R803 27K
R807 27K
R808 33K
R809 270K
R810 47K
R811 33K
R812 2.2K
R813 680K
R814 6.8K
R815 10K
R816 2.7K
R817 15K
R818 8.2K
R819 1K
R820 8.2K
R821-8.2K
R822 10K
R823 33K
R824 120K
R825 47K
R826 2.7K
R827 1K
R828 33
R829 15K
R830 47
R831 270K
R832 270K
R833 220K
C803 0.0056µ
C804 0.0047µ
C805 0.027
C806 10µ 16V
C807 0.1µ
C808 47 10V
C809 0.1µ
C810 10 16V
C811 20P
C812 10µ16V
C813 0.1µ
C814 0.1µ
C815 0.33µ
C820 100µ 25V
Q803
Q804
Q805
Q806
Q807
Q808
Q809
Q810
Q811
Q830
14V
0.6V
5V
4.3V
3.6V
7.4V
3.7V
6.1V
3.1V
R901 150K
R902 180K
R903 27K
R904 22K
R905 8.2K
R906 150K
R907 2.7K
R908 33K
R909 270K
R910-47K
R911 33K
R912 2.2K
R913 680K
R914 6.8K
R915 10K
R916 2.7K
R917 15K
R918 8.2K
R919 1K
R920 8.2K
R921-8.2K
R922 10K
R923 33K
R924 120K
R925 47K
R926 2.7K
R927 1K
R928 33
R929 15K
R930 47
R931 270K
R932 270K
R933 220K
C901 10µ 16V
C902 10µ16V
C903 0.0056µ
C904 0.0047µ
C905 0.027µ
C906 10µ 16V
C907 0.1µ
C908 47 10V
C909 0.1µ
C910 10µ 16V
C911 20P
C912 10µ16V
C913 0.1µ
C914 0.1µ
C915 0.33µ
Q901
Q902
Q903
Q904
Q905
Q906
Q907
Q908
Q909
Q910
Q911

Figure 15. P800-Circuit Diagram

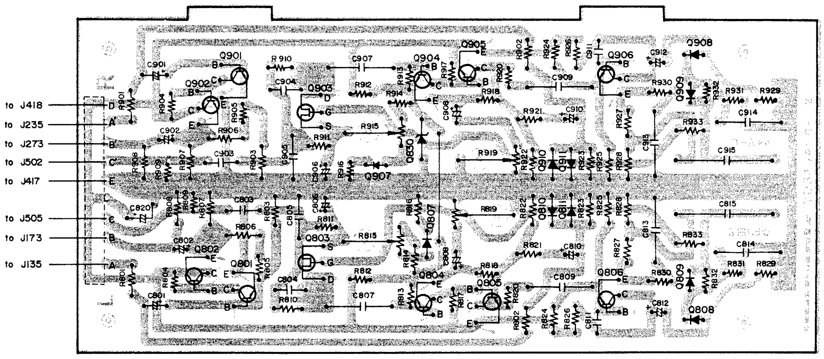

to J418
to J235
to J273
to J502
to J417
to J505
to J173
to J135
D
A'
B'
C'
E
C
B
A
Q901
Q902
Q903
Q904
Q905
Q906
Q907
Q908
Q909
Q910
Q911
Q801
Q802
Q803
Q804
Q805
Q806
Q807
Q808
Q809
Q810
Q811
Q830
C820

Figure 16. Dolby Assembly P800-Component Locations

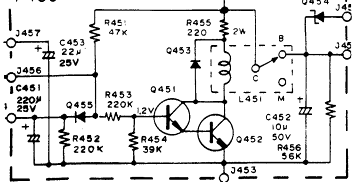

P450
J457
J456
J453
C453 22µ 25V
C451 220µ 25V
R451 47K
R455 220 2W
R453 220K
R452 220K
R454 39K
R456 56K
C452 10µ 50V
Q451
Q452
Q453
Q454
Q455
L451
1.2V
B
C
M
J45

Figure 17. P450-Circuit Diagram

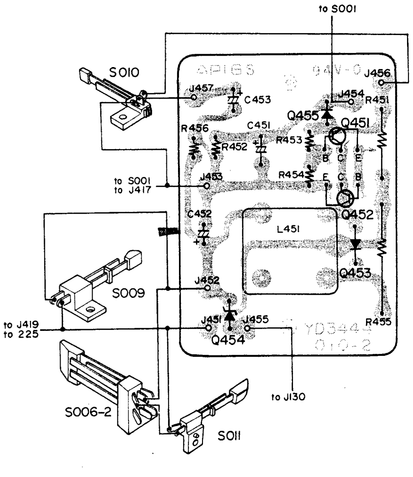
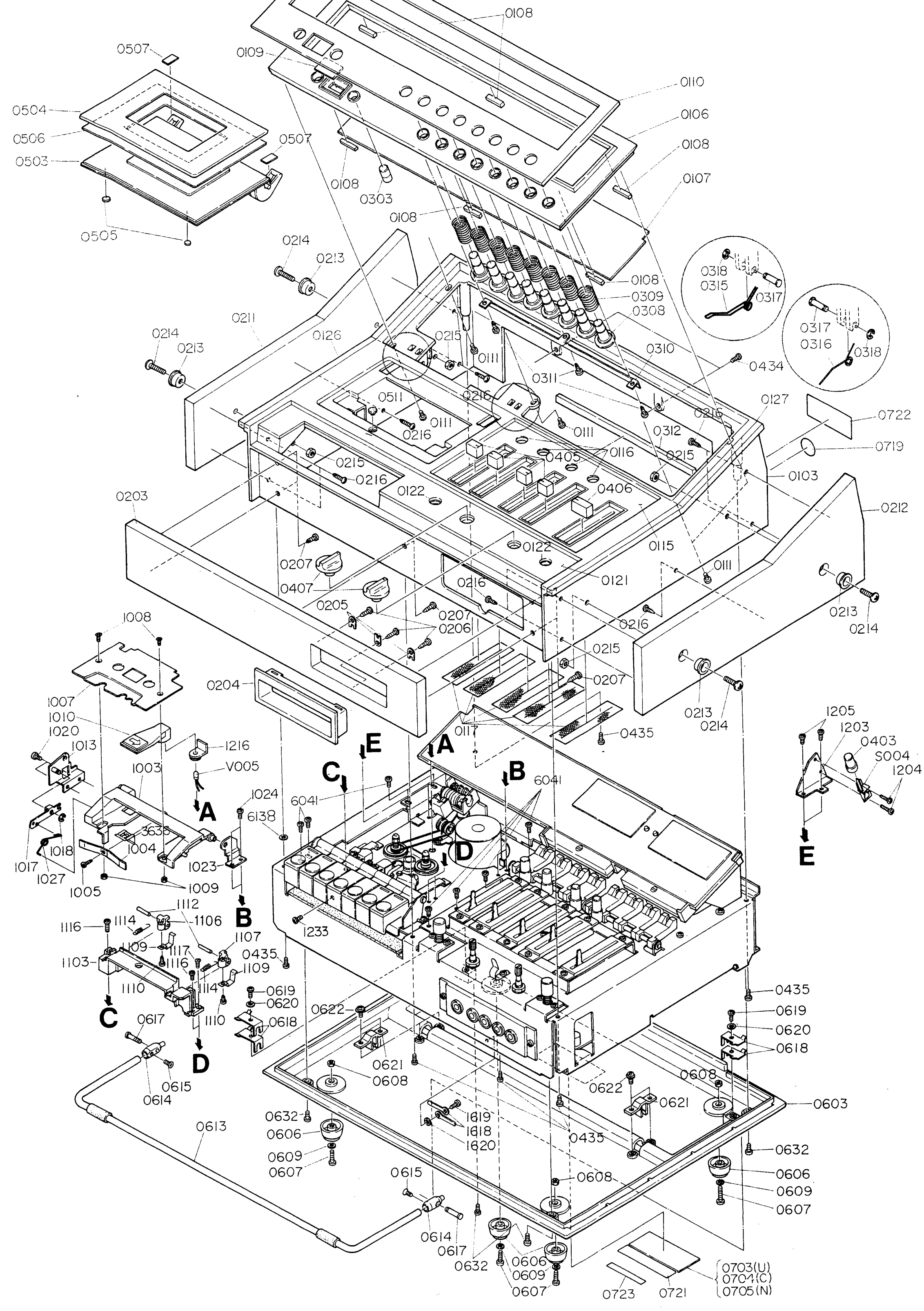

to S001
S010
J457
C453
J456
J454
R451
Q455
Q451
C451
R456
R452
R453
to S001
to J417
J453
R454
Q452
C452
L451
S009
J452
Q453
to J419
to 225
J451
J455
R455
Q454
to J130
S006-2
S011

Figure 18. Relay Assembly P450 Component Locations

14. EXPLODED VIEWS

Cabinet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0405
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0216
0406
0203
0122
0212
0115
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0207
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0121
0407
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0205
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1008
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0207
0204
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0214
1007
1010
0117
0435
1205
1203
1020
1216
0403
1013
E
A
S004
1003
V005
B
1204
C
6041
A
6041
1024
6138
3636
D
E
1018
1004
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1005
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1103
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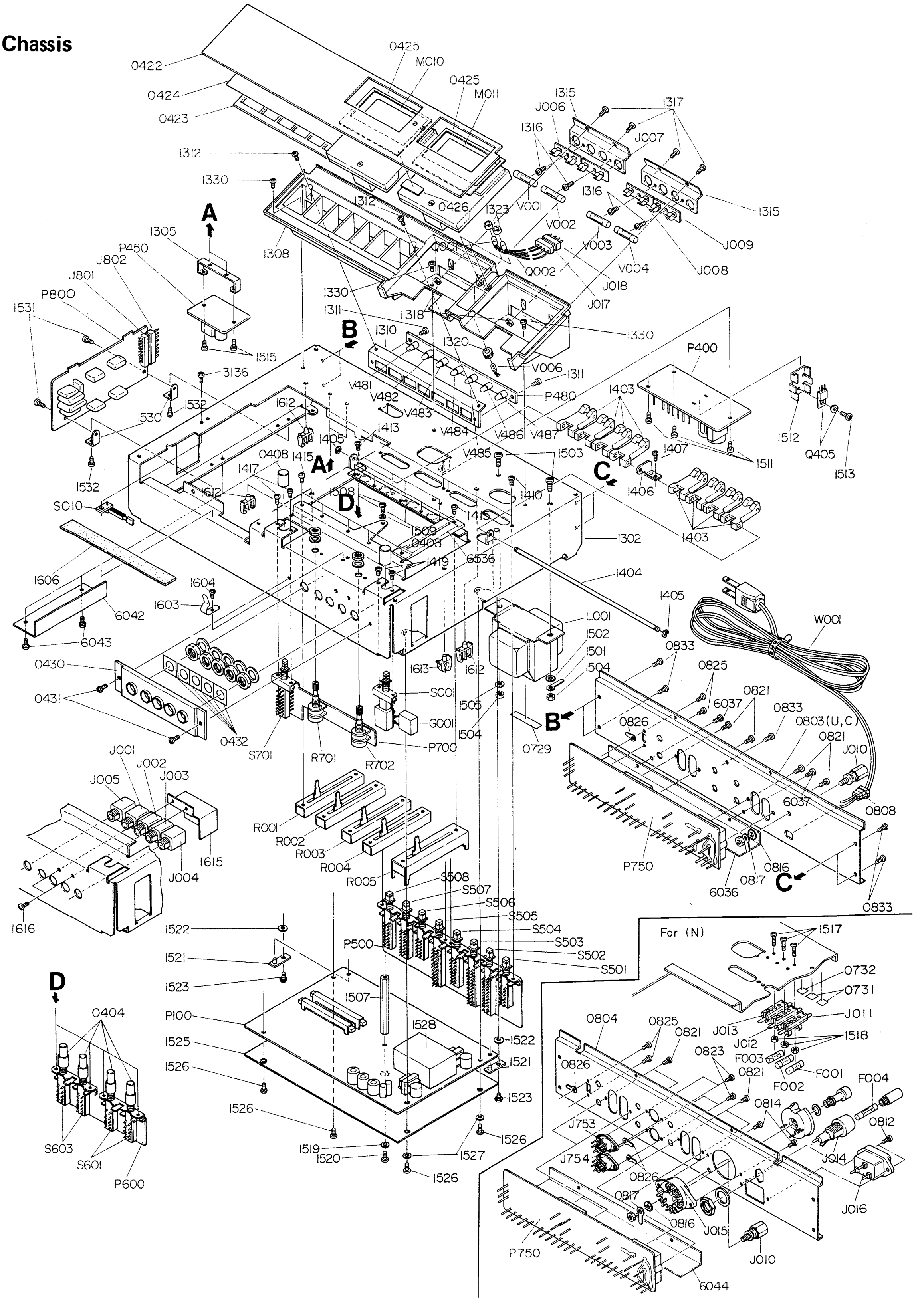
0609
0607
0703(U)
0704(C)
0723
0721
0705(N)

Chassis



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V004
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V482
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V484
V485
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P480
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L001
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0803(U,C)
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S701
R701
R702
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J002
J003
J005
1615
J004
1616
R001
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S507
S506
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S504
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S501
P750
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F004
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J010
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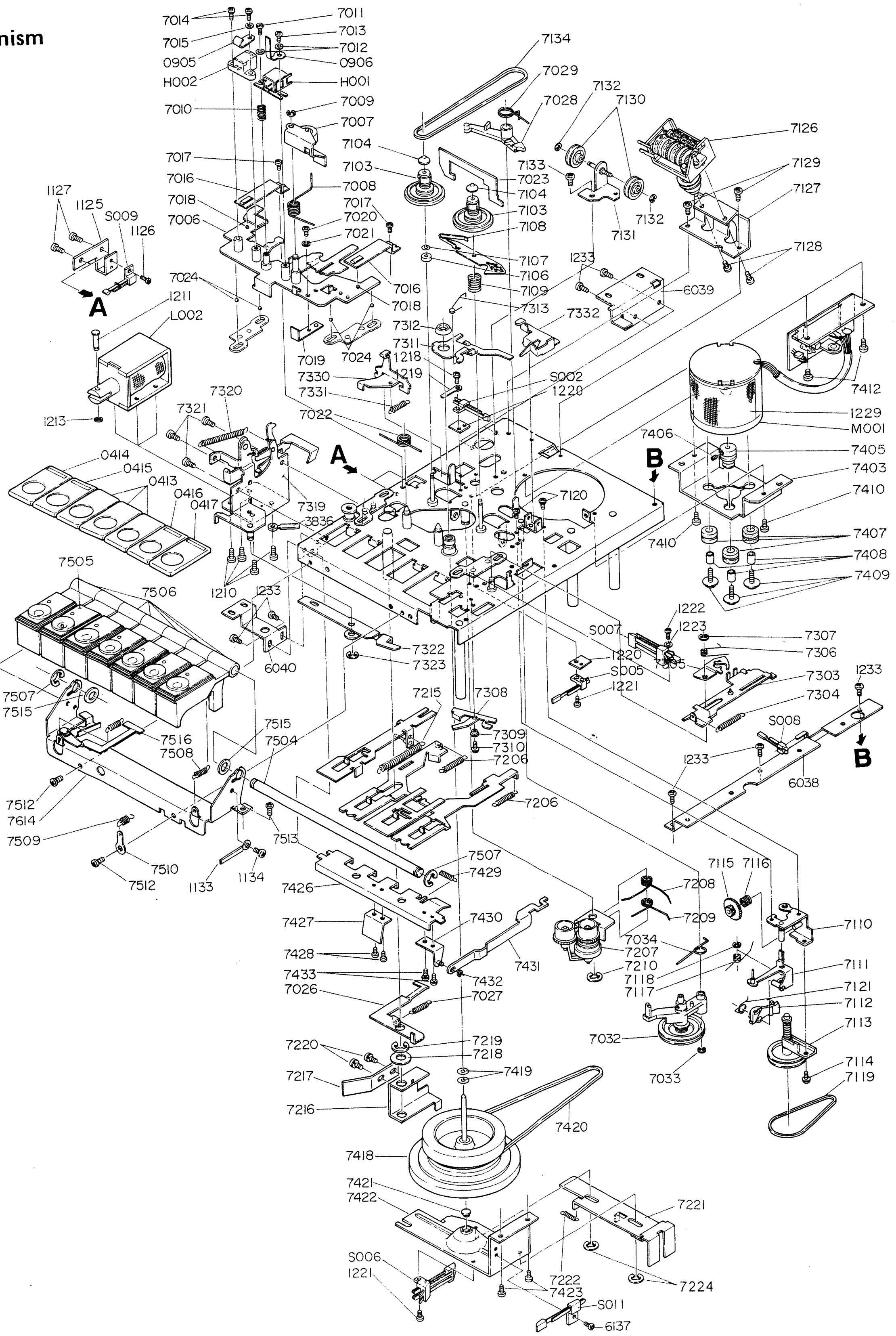
Tape Mechanism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7222
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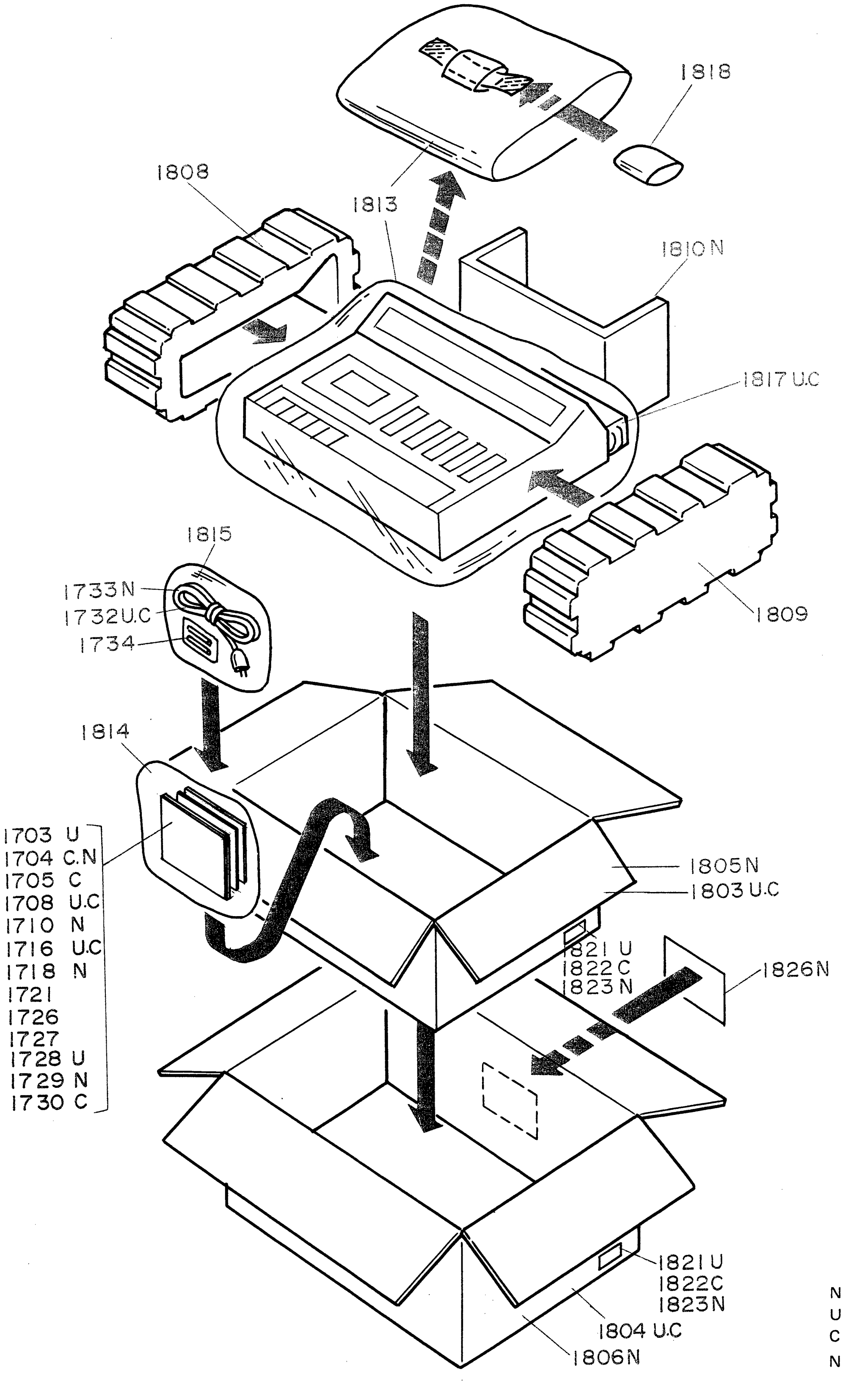
7224
S011
6137

15. PACKING


1818
1808
1813
1810N
1817 U.C
1815
1733N
1732U.C
1734
1809
1814
1703 U
1704 C.N
1705 C
1708 U.C
1710 N
1716 U.C
1718 N
1721
1726
1727
1728 U
1729 N
1730 C
1805N
1803 U.C
1821 U
1822 C
1823 N
1826N
1821 U
1822C
1823N
1804 U.C
1806N

NOTE
U : U.S.A.
C : Canada
N : Europe

16. PARTS LIST

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
*	1			344406440	Case Assembly, Incl. A, B
*		1		344406441	Case Assembly, Incl. A, B1
*			1	344406442	Case Assembly, Incl. A, B2
A	1	1	1	344406443	Front Case Assembly
0103	1	1	1	344406401	Case
0106	1	1	1	344440101	Frame
0107	1	1	1	344415801	Window
0108	6	6	6	344411801	Spacer
0109	1	1	1	344415803	Window
0110	1	1	1	344406301	Escutcheon
0111	5	5	5	51100306A	B.H.M. Screw, B3x6
0115	1	1	1	344406302	Escutcheon
0116	4	4	4	344425901	Bush
0117	5	5	5	344410701	Sheet
0121	1	1	1	344406303	Escutcheon
0122	2	2	2	288625901	Bush
0126	1	1	1	344406304	Escutcheon
0127	1	1	1	344406305	Escutcheon
0203	1	1	1	344406306	Escutcheon
0204	1	1	1	344440102	Frame
0205	3	3	3	344411406	Stopper
0206	3	3	3	51400308A	B.H. Tapped Screw, B3x8ST
0207	6	6	6	51523110A	R.H. Wood Screw
0211	1	1	1	344406307	Escutcheon
0212	1	1	1	344406308	Escutcheon
0213	4	4	4	390625901	Bush
0214	4	4	4	51100414S	B.H.M. Screw, B4x9
0215	4	4	4	53110403A	Hex. Nut
0216	10	10	10	51523110A	R.H. Wood Screw
0303	1	1	1	344415402	Knob
0308	8	8	8	344415403	Knob
0309	8	8	8	344411502	Spring
0310	1	1	1	344427102	Holder
0311	3	3	3	51380308P	P.H. Tapped Screw, P3x8ST
0312	1	1	1	344405602	Buffer
0315	1	1	1	344411512	Spring
0316	1	1	1	344411503	Spring
0317	2	2	2	344411201	Shaft
0318	2	2	2	64000400R	R.G. Ring, E Type
B	1			344425740	Buttom Lid Assembly
B1		1		344425741	Buttom Lid Assembly
B2			1	344425742	Buttom Lid Assembly
0603	1	1	1	344425701	Lid
0606	4	4	4	388905701	Leg
0607	4	4	4	51100314S	B.H.M. Screw, B3x14
0608	4	4	4	53110303A	Hex. Nut
0609	4	4	4	54050302N	Spring Washer
0613	1	1	1	344412801	Stand
0614	2	2	2	344411401	Stopper
0615	2	2	2	51042604B	F.H.M. Screw, F2.6x4
0617	2	2	2	344411202	Shaft
0618	4	4	4	344411403	Stopper
0619	2	2	2	51100305A	B.H.M. Screw, B3x5
0620	2	2	2	54020301A	Flat Washer P
0621	2	2	2	344411402	Stopper
0622	4	4	4	51480306A	F. Washer Screw, F3x6
0703	1			344426501	Indicator
0704		1		344426502	Indicator
0705			1	344426503	Indicator

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
0721	1	1	1	257886101	Label, "Caution"
0723	1	1	1	250626506	Indicator, "Do not use as handle"
C	1	1	1	344425743	Cassette Lid Assembly
0503	1	1	1	344425702	Lid
0504	1	1	1	344406309	Escutcheon
0505	2	2	2	341105602	Buffer
0506	1	1	1	344412202	Sticker
0507	2	2	2	344405603	Buffer
D	3	3	3	344427040	Button Assembly, Play, F.F., Rew.
0413	3	3	3	344406310	Escutcheon
7506	3	3	3	344427002	Button
E	1	1	1	344427041	Button Assembly, Eject
0414	1	1	1	344406311	Escutcheon
7506	1	1	1	344427002	Button
F	1	1	1	344427042	Button Assembly, Rec.
0415	1	1	1	344406312	Escutcheon
7505	1	1	1	344427001	Button
G	1	1	1	344427043	Button Assembly, Stop
0416	1	1	1	344406313	Escutcheon
7506	1	1	1	344427002	Button
H	1	1	1	344427044	Button Assembly, Pause
0417	1	1	1	344406314	Escutcheon
7506	1	1	1	344427002	Button
					KNOBS
0403	1	1	1	344415401	Knob, Memory Switch
0404	4	4	4	344415404	Knob, Mic-Line Switch
0405	4	4	4	344415405	Knob, Slide Volume
0406	1	1	1	344415406	Knob, Master Relay
0407	2	2	2	344415407	Knob, Panpot, Volume
0408	2	2	2	281815401	Knob, Panpot, Power Switch
					METER WINDOW AND ASSOCIATED PARTS
0422	1	1	1	344415802	Window
0423	1	1	1	344412201	Sticker
0424	1	1	1	344410702	Sheet
0425	2	2	2	344405303	Cover
0426	1	1	1	344410703	Sheet
					JACK PLATE MOUNTING HARDWARE
0430	1	1	2	344405304	Cover, Jack
0431	2	2	2	51100306S	B.H.M. Screw, B3x6
0432	5	5	5	289610701	Sheet
					CASE MOUNTING HARDWARE
0434	2	2	2	51100306S	B.H.M. Screw, B3x6
0435	6	6	6	51100306S	B.H.M. Screw, B3x6
					AZIMUTH COVER
0511	1	1	1	344405305	Cover, Azimuth
					REAR COVER MOUNTING HARDWARE
0632	4	4	4	51100308S	B.H.M. Screw, B3x8

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
					LABELS, OUTSIDE
0716	1			951110105	Label, UL
0717	1			951091102	Label, Factory Code No.
0719		1		951091101	Label, LL NO.
0722	1	1	1	333386102	Label, Dolby
					LABELS, INSIDE
0728			1	288286102	Label
0729	1	1	1	290886101	Label, Marantz, "On Power Transf."
0731			2	951261101	Label, Fuse, IAT, 250V
0732			1	951261103	Label, Fuse, 3.15AT, 250V
					REAR PANEL MOUNTING HARDWARE
0803	1	1		344416001	Bracket
0804			1	344416002	Bracket
0808	1	1	1	45525903	Bush
0812			2	51100308S	B.H.M. Screw, B3x8
0814			2	51100306S	B.H.M. Screw, B3x6
0816	1	1	1	54050400R	T.L.Washer OR
0817	1	1	1	62041760W	Lug
0821	4	4	4	51100306S	B.H.M. Screw, B3x6
0823			4	51100306S	B.H.M. Screw, B3x6
0825	2	2	2	51102604S	B.H.M. Screw, B2.6x4
0826	1	1	3	62031340W	Lug
0833	5	5	5	51100304S	B.H.M. Screw, B3x4
					TAPE MECHANISM
0903	1	1	1	344430401	Tape Mechanical Assembly
0905	1	1	1	112600501	Clamper
0906	1	1	1	121000501	Clamper
					TAPE MECHANISM MOUNTING HARDWARE (FOR CASSETTE HOLDER)
1003	1	1	1	344427101	Holder
1004	1	1	1	344411505	Spring
1005	1	1	1	51382606A	P.H. Tapped Screw, P2.6x6ST
1007	1	1	1	344416301	Tray
1008	2	2	2	51040205S	F.H.M. Screw, F2x5
1009	2	2	2	53110203A	Hexagon Nut
1010	1	1	1	344415804	Window
1013	1	1	1	344416050	Bracket K
1017	1	1	1	344400201	Arm
1018	1	1	1	64000300R	R.G. Ring, B Type
1020	2	2	2	51570306B	P.H. Tapped Screw, P3x6ST
1023	1	1	1	344416004	Bracket
1024	2	2	2	51570306B	P.H. Tapped Screw, P3x6ST
1027	1	1	1	344411506	Spring
					CASSETTE GUIDE AND ASSOCIATED PART
1103	1	1	1	344405101	Guide, Cassette
1106	1	1	1	344411404	Stopper
1107	1	1	1	344411405	Stopper
1109	2	2	2	344411507	Spring
1110	2	2	2	51380305P	P.H. Tapped Screw, P3x5ST
1112	2	2	2	344411204	Shaft
1114	2	2	2	344411508	Spring
1116	2	2	2	51062606S	P.H.M. Screw, P2.6x6
1117	1	1	1	51042605S	F.H.M. Screw, F2.6x5
					TAPE MECHANISM MOUNTING HARDWARE
1125	1	1	1	344416014	Bracket
1126	1	1	1	51100206A	B.H.M. Screw, B2x6
1127	2	2	2	51570305B	P.H. Tapped Screw, P3x5ST
1133	1	1	1	138200503	Clamper
1134	1	1	1	51570306B	P.H. Tapped Screw, P3x6ST
1203	1	1	1	344416005	Bracket

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
1204	2	2	2	51100204A	B.H.M. Screw, B2x4
1205	2	2	2	51570306B	P.H. Tapped Screw, P3x6 ST
1210	4	4	4	51100304A	B.H.M. Screw, B3x4
1211	1	1	1	344411205	Shaft
1213	1	1	1	64001500R	R.G. Ring, E type
1216	1	1	1	344427103	Holder
1218	1	1	1	51820206B	P.H.M. Screw, P2x6
1219	1	1	1	341200503	Clamper
1220	2	2	2	344412001	Insulator
1221	2	2	2	51100204A	B.H.M. Screw, B2x4
1222	1	1	1	51100206A	B.H.M. Screw, B2x6
1223	1	1	1	54020201A	Flat Washer P
1229			1	33461073O	Sheet
1233	8	8	8	51100306A	P.H. Tapped Screw, P3x6ST
					CHASSIS
1302	1	1	1	344410560	Chassis K
					REFLECTOR AND ASSOCIATED PARTS
1308	1	1	1	344427401	Reflector
1310	1	1	1	344427104	Holder
1311	2	2	2	51100306A	B.H.M. Screw, B3x6
1312	2	2	2	51100306A	B.H.M. Screw, B3x6
1315	2	2	2	344427105	Holder
1316	4	4	4	51100306A	B.H.M. Screw, B3x6
1317	4	4	4	51100306A	B.H.M. Screw, B3x6
1318	4	4	4	53110303A	Hexagon Nut
1320	1	2	2	344427106	Holder
1323	2	2	2	344427107	Holder
1330	3	3	3	51100306A	B.H.M.Screw, B3x6
					SWITCH MOUNTING HARDWARE
1403	8	8	8	344400202	Arm
1405	2	2	2	64000300R	R.G. Ring, E Type
1406	1	1	1	344405102	Guide
1407	1	1	1	51570306B	P.H. Tapped Screw,, P3x6ST
1410	4	4	4	51100306A	B.H.M. Screw, B3x6
1413	4	4	4	51100306A	B.H.M. Screw, B3x6
1415	10	10	10	51100306A	B.H.M. Screw, B3x6
1417	2	2	2	51100306A	B.H.M. Screw, B3x6
1419	2	2	2	51100306A	B.H.M. Screw, B3x6
1501	1	1	1	62041760W	Lug
1502	1	1	1	54050400R	T.L. Washer OR
1503	2	2	2	51060408A	P.H.M. Screw, P4x8
1504	2	2	2	53110403A	Hexagon Nut
1505	1	1	1	54040402N	Spring Washer
1507	1	1	1	344410101	Support
1508	1	1	1	51100306A	B.H.M. Screw, B3x6
1509	1	1	1	54040302A	Spring Washer
1511	3	3	3	51100306S	B.H.M. Screw, B3x6
1512	1	1	1	344426701	Heat Sink
1513	1	1	1	51100306A	B.H.M. Screw, B3x6
1515	2	2	2	51100306S	B.H.M. Screw, B3x6
1517			3	51102608A	B.H.M. Screw, B2.6x8
1518			3	53112603A	Hexagon Nut
1519	1	1	1	59030805P	Washer
1520	1	1	1	51100306S	B.H.M. Screw, B3x6
1521	2	2	2	344415301	Hinge
1522	2	2	2	54110149A	Washer
1523	2	2	2	51480306A	B.H.M. Screw F, B3x6
1525	1	1	1	344410904	Shield
1526	4	4	4	51100306A	B.H.M. Screw, B3x6
1527	2	2	2	59030805P	Washer
1528	1	1	1	344410901	Shield
1530	2	2	2	344416013	Bracket
1331	2	2	2	51100306S	B.H.M. Screw, B3x6

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
1532	2	2	2	51100306A	B.H.M. Screw, B3x6
1603	1	1	1	344411510	Spring
1604	1	1	1	51570806B	P.H. Tapped Screw, P8x6ST
1606	1	1	1	344405601	Buffer
1612	3	3	3	288600504	Clamper
1613	1	1	1	288600506	Clamper
1615	1	1	1	344410905	Shield
1616	1	1	1	51060306A	P.H.M. Screw, P3x6
1618	2	2	2	138200503	Clamper
1619	1	1	1	51570305B	P.H. Tapped Screw, P3x5ST
1620	1	1	1	54050300R	T.L. Washer, OR
					PRINTED MATTER
1703	1			344485101	Instructions, Set
1704		1	1	344485121	Instructions, Set
1708	1	1		344485601	Schematic Diagram
1710			1	344485603	Schematic Diagram
1716	1	1		344485103	Instructions, Accessories
1718			1	344485105	Instructions, Accessories
1721	1	1	1	281885104	Instructions, Packing
1726	1	1	1	257785401	Guarantee Card, I.B.M.
1727	1	1	1	257781301	Instructions, "Important"
1728	1			257781301	Envelope
1729			1	281881301	Envelope
1730		1		291881301	Envelope
					ACCESSORIES
1732	2	2		ZD0120006	Connection Cord, RCA Type
1733			1	ZD0200007	Connection Cord, DIN Type
1734	1	1	1	308907102	Cleaner
					PACKING MATERIALS
1803	1	1		344480101	Packing Case, Inner
1804	1	1		344480102	Packing Case, Outer
1805			1	344480103	Packing Case, Inner
1806			1	344480104	Packing Case, Outer
1808	1	1	1	344480301	Cushion
1809	1	1	1	344480302	Cushion
1810			1	344480701	Reinforcing
1813	1	1	1	901453835	Polyethylene Bag, Main Body
1814	1	1	1	901302501	Polyethylene Bag, Printed Matter
1815	1	1	1	901302501	Polyethylene Bag, Accessories
1817	1	1		102980401	Sleeve
1818	1	1	1	273182101	Silica gel
1821	3			952281501	Serial No. Card
1822		3		952301512	Serial No. Card
1823			3	952301513	Serial No. Card
1826			1	288286101	Label, Power Cord Indicator
3636	1	1	1	344411513	Spring
3836	1	1	1	138200503	Clamper
6036	1	1		344410907	Shield
6037	2	2	2	51100306S	B.H.M. Screw, B3x6
6044			1	344410908	Shield
6038	1	1	1	344416015	Bracket
6039	1	1	1	344416016	Bracket
6040	1	1	1	344416017	Bracket
6041	8	8	8	51100306A	B.H.M., Screw, B3x6
6042	1	1	1	344410906	Shield
6736			1	288286103	Label, "Inlet"
6737	1			344486101	Label, "Imitation"
6043	2	2	2	51100306A	B.H.M., Screw, B3x6
6136	1	1	1	51102605A	B.H.M., Screw, B3x6
6137	1	1	1	51102605A	B.H.M., Screw, B2.6x5
6138	1	1	1	54020301A	Flat Washer P

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
6536	5	5	5	344405103	Guide
					TAPE MECHANISM BLOCK
7003	1	1	1	344410570	Chassis S, Main
7006	1	1	1	344410571	Chassis S, Head
7007	1	1	1	344425550	Pinch Roller K
7008	1	1	1	344411513	Spring
7009	1	1	1	64000200R	R.G. Ring, E Type
7010	1	1	1	344411514	Spring,
7011	1	1	1	344411410	Stopper (Screw),
7012	1	1	1	54012200E	Washer
7013	1	1	1	51440204A	P.H. Cam Screw, P2x4
7014	2	2	2	51450206A	P.H. Cam Screw, P2x4
7015	1	1	1	54010200E	Washer
7016	2	2	2	344411515	Spring
7017	2	2	2	51572505A	P.H. Tapped Screw, P2.5x5ST
7018	6	6	6	61020010T	Ball
7019	1	1	1	344435402	Lever
7020	1	1	1	51572508A	P.H. Tapped Screw, P2.5x8ST
7021	1	1	1	54040202A	Spring Washer
7022	1	1	1	344411516	Spring
7023	1	1	1	344426301	Brake
7025	1	1	1	344435406	Lever
7026	1	1	1	344400204	Arm
7027	1	1	1	344411517	Spring
7028	1	1	1	344435407	Lever
7029	1	1	1	344411518	Spring
7032	1	1	1	344400250	Arm K
7033	1	1	1	64000200R	R.G. Ring, E Type
7034	1	1	1	344411519	Spring
7103	2	2	2	344400450	Table K
7104	2	2	2	344406701	Cap
7106	1	1	1	344405502	Collar
7107	1	1	1	59020402G	Polyethylene Washer
7108	1	1	1	344405401	Cam
7109	1	1	1	344411521	Spring
7110	1	1	1	344416051	Bracket K
7111	1	1	1	344416052	Bracket K
7112	1	1	1	344435408	Lever
7113	1	1	1	344426250	Pulley K
7114	1	1	1	344411411	Stopper (Screw)
7115	1	1	1	344405801	Gear
7116	1	1	1	344411522	Spring
7117	1	1	1	344411523	Spring
7118	1	1	1	64000200R	R.G. Ring, E type
7119	1	1	1	644426403	Belt, Auto-Stop
7120	2	2	2	51440203A	P.H. Cam Screw, P2x3
7121	1	1	1	344411536	Spring
7126	1	1	1	344405202	Counter
7127	1	1	1	344416010	Bracket
7128	2	2	2	51440306A	P.H. Cam Screw, P3x6
7129	2	2	2	51570305A	P.H. Tapped Screw, P3x5ST
7130	2	2	2	344426201	Pulley
7131	1	1	1	344416053	Bracket K
7132	2	2	2	64001500R	R.G. Ring, E Type
7133	1	1	1	51570305A	P.H. Tapped Screw, P3x5ST
7134	1	1	1	344426401	Belt, Counter
7204	1	1	1	344435409	Lever, F.F.
7205	1	1	1	344435410	Lever
7206	2	2	2	344411524	Spring
7207	1	1	1	344400150	Idler K
7208	1	1	1	344411525	Spring

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
7209	1	1	1	344411526	Spring
7210	1	1	1	64000400R	R.G, Ring, E type
7214	1	1	1	344435453	Lever K, Record
7215	1	1	1	344411527	Spring
7216	1	1	1	344435412	Lever
7217	1	1	1	344435413	Lever
7218	1	1	1	54020600E	Washer
7219	1	1	1	64000500R	R.G Ring, E Type
7220	2	2	2	51440305A	P.H. Cam Screw, P3x5
7221	1	1	1	344435450	Lever K
7222	1	1	1	344411528	Spring
7223	2	2	2	344411802	Spacer
7224	2	2	2	64002500R	R.G. Ring, E type
7303	1	1	1	344435451	Lever K, Pause
7304	1	1	1	344411529	Spring
7305	1	1	1	344405402	Cam
7306	1	1	1	344411530	Spring
7307	1	1	1	64002500R	R.G. Ring, E Type
7308	1	1	1	344400205	Arm
7309	1	1	1	344411803	Spacer
7310	1	1	1	344411412	Stopper (Screw)
7311	1	1	1	344400206	Arm
7312	1	1	1	344425903	Bush
7313	1	1	1	344411531	Spring
7319	1	1	1	344435452	Lever K, Eject
7320	1	1	1	344411532	Spring
7321	3	3	3	51570305A	P.H. Tapped Screw, P3x5ST
7322	1	1	1	344435401	Lever
7323	1	1	1	64000300R	R.G. Ring, E Type
7330	1	1	1	344435415	Lever
7331	1	1	1	344411533	Spring
7332	1	1	1	344435416	Lever
7403	1	1	1	344416015	Bracket, Motor
7405	1	1	1	344426204	Pulley
7406	1	1	1	51640205A	Set Screw
7407	3	3	3	344425904	Bush
7408	3	3	3	344405501	Collar
7409	3	3	3	344411413	Stopper (Screw)
7410	2	2	2	51570305A	P.H. Tapped Screw, P3x5ST
7412	2	2	2	51570305A	P.H. Tapped Screw, P3x5ST
7418	1	1	1	344427350	Fly-Wheel K
7419	2	2	2	307711801	Spacer
7420	1	1	1	344426402	Belt
7421	1	1	1	344411414	Stopper(Screw)
7422	1	1	1	344416008	Bracket
7423	2	2	2	51570305A	P.H Tapped Screw, P3x5ST
7424	1	1	1	54020300E	Washer
7426	1	1	1	344411407	Stopper
7427	1	1	1	344411408	Stopper
7428	2	2	2	51572505A	P. H. Tapped Screw, P2.5x5ST
7429	1	1	1	344411535	Spring
7430	1	1	1	344416054	Bracket K
7431	1	1	1	344435417	Lever
7432	1	1	1	64001500R	R.G. Ring, E Type
7433	2	2	2	61442604A	P.H. Cam Screw, 2.6x4
7503	1	1	1	344427109	Holder
7504	1	1	1	344411208	Shaft
7507	2	2	2	64000500R	R.G. Ring, E Type
7508	1	1	1	344411536	Spring
7509	1	1	1	344411536	Spring
7510	1	1	1	344425801	Hook
7512	2	2	2	51572505A	P.H. Tapped Screw , P2.5x5ST
7513	1	1	1	51570305A	P. H. Tapped Screw, P3x5ST
7515	2	2	2	34111804	Spacer
7516	1	1	1	344411537	Spring
					PREAMP. CIRCUIT BOARD-P100
P100	1	1	1	YD3444001	P.W. Board, Pre-Amp.
	1	1	1	ZZ3444001	P. W. Bord Assembly
					P100-SEMICONDUCTORS
Q101	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q201	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q102	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q202	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q103	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q203	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q104	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q204	1	1	1	HT313271T	Transistor, 2SC1327(T)
Q105	1	1	1	HT306441B	Transistor, 2SC644(S)
Q205	1	1	1	HT306441B	Transistor, 2SC644(S)
Q106	1	1	1	HT306441B	Transistor, 2SC644(S)
Q206	1	1	1	HT306441B	Transistor, 2SC644(S)
Q107	1	1	1	HT308281C	Transistor, 2SC828(R)
Q207	1	1	1	HT308281C	Transistor, 2SC828(R)
Q108	1	1	1	HT313831X	Transistor, 2SC1383(X)
Q208	1	1	1	HT313831X	Transistor, 2SC1383(X)
Q109	1	1	1	HC1001105	I.C., TA7129P
Q209	1	1	1	HC1001105	I.C., TA7129P
Q110	1	1	1	HC1001105	I.C., TA7129P
Q210	1	1	1	HC1001105	I.C., TA7129P
Q111	1	1	1	HT308281C	Transistor, 2SC828(R)
Q211	1	1	1	HT308281C	Transistor, 2SC828(R)
Q112	1	1	1	HT308281C	Transistor, 2SC828(R)
Q212	1	1	1	HT308281C	Transistor, 2SC828(R)
Q113	1	1	1	HT308281C	Transistor, 2SC828(R)
Q213	1	1	1	HT308281C	Transistor, 2SC828(R)
Q114	1	1	1	HT308281C	Transistor, 2SC828(R)
Q214	1	1	1	HT308281C	Transistor, 2SC828(R)
Q115	1	1	1	HT313171R	Transistor, 2SC1317(R)
Q215	1	1	1	HT313171R	Transistor, 2SC1317(R)
Q116	1	1	1	HT3082810	Transistor, 2SC828(R)
Q216	1	1	1	HT308281C	Transistor, 2SC828(R)
Q117	1	1	1	HT316451B	Transistor, 2SC1645(B)
Q217	1	1	1	HT316451B	Transistor, 2SC1645(B)
Q118	1	1	1	HD2001105	Diode, 1S1555
Q218	1	1	1	HD2001105	Diode, 1S1555
Q119	1	1	1	HD1000302	Diode, 20A90
Q219	1	1	1	HD1000302	Diode, 20A90
Q120	1	1	1	HD1000302	Diode, 20A90
Q220	1	1	1	HD1000302	Diode, 20A90
Q121	1	1	1	HD1000302	Diode, 20A90
Q221	1	1	1	HD1000302	Diode, 20A90
Q122	1	1	1	HD1000302	Diode, 20A90
Q222	1	1	1	HD1000302	Diode, 20A90
Q123	1	1	1	HD2001105	Diode, 1S1555
Q223	1	1	1	HD2001105	Diode, 1S1555
Q301	1	1	1	HT308281C	Transistor, 2SC828(R)
Q302	1	1	1	HT308281C	Transistor, 2SC828(R)
					P100-COILS & TRANSFORMERS
L101	1	1	1	LC2255001	Choke Coil, 2.5mH, Bias Trap
L201	1	1	1	LC2255001	Choke Coil, 2.5mH, Bias Trap

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY. U	QTY. C	QTY. N	PART NO.	DESCRIPTION
L102	1	1	1	LC2255001	Choke Coil, 2.5mH, Bias Trap
L202	1	1	1	LC2255001	Choke Coil, 2.5mH, Bias Trap
L103	1	1	1	LC2256001	Choke Coil, 25mH, Bias Trap
L203	1	1	1	LC2256001	Choke Coil, 25mH, Bias Trap
L104	1	1	1	LC2406001	Choke Coil, 40mH, 19kHz Trap
L204	1	1	1	LC2406001	Choke Coil, 40mH, 19kHz Trap
L105	1	1	1	LC2475002	Choke Coil, 4.7mH, Rec. Eq.
L205	1	1	1	LC2475002	Choke Coil, 4.7mH, Rec. Eq.
L106	1	1	1	LC2475002	Choke Coil, 4.7mH Rec. Eq.
L206	1	1	1	LC2475002	Choke Coil, 4.7mH, Rec. Eq.
L107	1	1	1	LC2475002	Choke Coil, 4.7mH, Rec. Eq.
L207	1	1	1	LC2475002	Choke Coil, 4.7mH, Rec. Eq.
L108	1	1	1	LC2226004	Choke Coil, 22mH, Bias Trap
L208	1	1	1	LC2226004	Choke Coil, 22mH, Bias Trap
L109	1	1	1	TO1190504	Output Transformer
L209	1	1	1	TO1190504	Output Transformer
L301	1	1	1	TC1018007	OSC Transformer
					P100-SWITCHES
S101	1	1	1	SS0902004	Slide Switch, Rec/Play
S201	1	1	1	SS0902004	Slide Switch, Rec/Play
					P100-RESISTORS
R101	1	1	1	RN0582114	820Ω, ¼W, ±5%
R201	1	1	1	RN0582114	820Ω, ¼W, ±5%
R102	1	1	1	RN0582114	820Ω, ¼W, ±5%
R202	1	1	1	RN0582114	820Ω, ¼W, ±5%
R103	1	1	1	RN0510314	10KΩ, ¼W, ±5%
R203	1	1	1	RN0510314	10KΩ, ¼W, ±5%
R104	1	1	1	RN0510314	10KΩ, ¼W, ±5%
R204	1	1	1	RN0510314	10KΩ, ¼W, ±5%
R105	1	1	1	RN0512414	120KΩ, ¼W, ±5%
R205	1	1	1	RN0512414	120KΩ, ¼W, ±5%
R106	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R206	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R107	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R207	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R108	1	1	1	RT0539114	390Ω, ¼W, ±5%
R208	1	1	1	RT0539114	390Ω, ¼W, ±5%
R109	1	1	1	RT0539114	390Ω, ¼W, ±5%
R209	1	1	1	RT0539114	390Ω, ¼W, ±5%
R110	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R210	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R111	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R211	1	1	1	RN0568314	68KΩ, ¼W, ±5%
R112	1	1	1	RN0512314	12KΩ, ¼W, ±5%
R212	1	1	1	RN0512314	12KΩ, ¼W, ±5%
R113	1	1	1	RN0512314	12KΩ, ¼W, ±5%
R213	1	1	1	RN0512314	12KΩ, ¼W, ±5%
R114	1	1	1	RT0510114	100Ω, ¼W, ±5%
R214	1	1	1	RT0510114	100Ω, ¼W, ±5%
R115	1	1	1	RT0510114	100Ω, ¼W, ±5%
R215	1	1	1	RT0510114	100Ω, ¼W, ±5%
R116	1	1	1	RT0547114	470Ω, ¼W, ±5%
R216	1	1	1	RT0547114	470Ω, ¼W, ±5%
R117	1	1	1	RT0547114	470Ω, ¼W, ±5%
R217	1	1	1	RT0547114	470Ω, ¼W, ±5%
R118	1	1	1	RN0515414	150KΩ, ¼W, ±5%
R218	1	1	1	RN0515414	150KΩ, ¼W, ±5%
R119	1	1	1	RN0515414	150KΩ, ¼W, ±5%
R219	1	1	1	RN0515414	150KΩ, ¼W, ±5%
R120	1	1	1	RT0520314	20KΩ, ¼W, ±5%
R220	1	1	1	RT0520314	20KΩ, ¼W, ±5%
R121	1	1	1	RT0520314	20KΩ, ¼W, ±5%

REF. DESIG.	QTY. U	QTY. C	QTY. N	PART NO.	DESCRIPTION
R221	1	1	1	RT0520314	20KΩ, ¼W, ±5%
R122	1	1	1	RT0518414	180KΩ, ¼W, ±5%
R222	1	1	1	RT0518414	180KΩ, ¼W, ±5%
R223	1	1	1	RA0302003	Trimming, 3KΩ
R123	1	1	1	RA0302003	Trimming, 3KΩ
R124	1	1	1	RT0539214	3.9KΩ, ¼W, ±5%
R224	1	1	1	RT0539214	3.9KΩ, ¼W, ±5%
R125	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R225	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R126	1	1	1	RA0503009	Trimming, 50KΩ
R226	1	1	1	RA0503009	Trimming, 50KΩ
R127	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R227	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R128	1	1	1	RT0556114	560Ω, ¼W, ±5%
R228	1	1	1	RT0556114	560Ω, ¼W, ±5%
R129	1	1	1	RT0556114	560Ω, ¼W, ±5%
R229	1	1	1	RT0556114	560Ω, ¼W, ±5%
R130	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R230	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R131	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R231	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R132	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R132	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R133	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R233	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R134	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R234	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R135	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R235	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R136	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R236	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R137	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R237	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R138	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R238	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R139	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R239	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R140	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R240	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R141	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R241	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R142	1	1	1	RT0522114	220Ω ¼W, ±5%
R242	1	1	1	RT0522114	220Ω, ¼W, ±5%
R143	1	1	1	RT0522114	220Ω, ¼W, ±5%
R243	1	1	1	RT0522114	220Ω, ¼W, ±5%
R144	1	1	1	RT0510414	100KΩ, ¼W, ±5%
R244	1	1	1	RT0510414	100KΩ, ¼W, ±5%
R145	1	1	1	RT0510414	100KΩ, ¼W, ±5%
R245	1	1	1	RT0510414	100KΩ, ¼W, ±5%
R146	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R246	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R147	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R247	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R148	1	1	1	RT0527314	27KΩ, ¼W, ±5%
R248	1	1	1	RT0527314	27KΩ, ¼W, ±5%
R149	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R249	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R150	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R250	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R151	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R251	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R152	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
R252	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R153	1	1	1	RT0515114	150Ω, ¼W, ±5%
R253	1	1	1	RT0515114	150Ω, ¼W, ±5%
R154	1	1	1	RT0518214	1.8KΩ, ¼W, ±5%
R254	1	1	1	RT0518214	1.8KΩ, ¼W, ±5%
R155	1	1	1	RT0510514	1MΩ, ¼W, ±5%
R255	1	1	1	RT0510514	1MΩ, ¼W, ±5%
R156	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R256	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R157	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R257	1	1	1	RT0547414	470KΩ, ¼W, ±5%
R158	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R258	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R159	1	1	1	RT0515214	1.5KΩ, ¼W, ±5%
R259	1	1	1	RT0515214	1.5KΩ, ¼W, ±5%
R160	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R260	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R161	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R261	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R162	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R262	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R163	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R263	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R164	1	1	1	RT0556314	56KΩ, ¼W, ±5%
R264	1	1	1	RT0556314	56KΩ, ¼W, ±5%
R165	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R265	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R166	1	1	1	RT0512214	1.2KΩ, ¼W, ±5%
R266	1	1	1	RT0512214	1.2KΩ, ¼W, ±5%
R167	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R267	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R168	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R268	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R169	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R269	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R170	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R270	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R171	1	1	1	RA0302003	Trimming, 3KΩ
R271	1	1	1	RA0302003	Trimming, 3KΩ
R172	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R272	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R173	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R273	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R174	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R274	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R175	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R275	1	1	1	RT0512314	12KΩ, ¼W, ±5%
R176	1	1	1	RT0533014	33Ω, ¼W, ±5%
R276	1	1	1	RT0533014	33Ω, ¼W, ±5%
R177	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R277	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R178	1	1	1	GJ0547101	470Ω, 1W, ±5%
R278	1	1	1	GJ0547101	470Ω, 1W, ±5%
R179	1	1	1	RT0556314	56KΩ, ¼W, ±5%
R279	1	1	1	RT0556314	56KΩ, ¼W, ±5%
R180	1	1	1	RT0556214	5.6KΩ, ¼W, ±5%
R280	1	1	1	RT0556214	5.6KΩ, ¼W, ±5%
R181	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R281	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R182	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R282	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R183	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R283	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
R184	1	1	1	RA0503009	Trimming, 50KΩ
R284	1	1	1	RA0503009	Trimming, 50KΩ
R185	1	1	1	RA0503009	Trimming, 50KΩ
R285	1	1	1	RA0503009	Trimming, 50KΩ
R186	1	1	1	RA0503009	Trimming, 50KΩ
R286	1	1	1	RA0503009	Trimming, 50KΩ
R187	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R287	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R188	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R288	1	1	1	RT0533414	330KΩ, ¼W, ±5%
R189	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R289	1	1	1	RT0539314	39KΩ, ¼W, ±5%
R190	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R290	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R191	1	1	1	RT0568114	680Ω, ¼W, ±5%
R291	1	1	1	RT0568114	680Ω, ¼W, ±5%
R192	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R292	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R193	1	1	1	RT0522014	22Ω, ¼W, ±5%
R293	1	1	1	RT0522014	22Ω, ¼W, ±5%
R194	1	1	1	RT0522014	22Ω, ¼W, ±5%
R294	1	1	1	RT0522014	22Ω, ¼W, ±5%
R195	1	1	1	RT0522014	22Ω, ¼W, ±5%
R295	1	1	1	RT0522014	22Ω, ¼W, ±5%
R196	1	1	1	RT0556214	5.6KΩ, ¼W, ±5%
R296	1	1	1	RT0556214	5.6KΩ, ¼W, ±5%
R197	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R297	1	1	1	RT0547314	47KΩ. ¼W, ±5%
R198	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R298	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R199	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R299	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R302	1	1	1	GJ0568002	68Ω, 2W ±5%
R303	1	1	1	GJ0522101	220Ω, 1W, ±5%
R304	1	1	1	GJ0522101	220Ω, 1W, ±5%
R305	1	1	1	GJ0527102	270Ω, 2W, ±5%
R306	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R307	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R308	1	1	1	RT0539014	39Ω, ¼W, ±5%
R309	1	1	1	RT0539014	39Ω, ¼W, ±5%
R310	1	1	1	RA0154002	Trimming, 150KΩ
R311	1	1	1	RA0154002	Trimming, 150KΩ
R350	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R351	1	1	1	RT0547314	47KΩ, ¼W ±5%
R399	8	8	8	RC0000012	0Ω, ½W
					P100-CAPACITORS
C101	1	1	1	EE1060162	Electrolytic, 10μF, 16V
C201	1	1	1	EE1060162	Electrolytic, 10μF, 16V
C102	1	1	1	EE1060162	Electrolytic, 10μF, 16V
C202	1	1	1	EE1060162	Electrolytic, 10μF, 16V
C103	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C203	1	1	1	EA3360259	Electrolytic, 33μF, 35V
C104	1	1	1	EA3360259	Electrolytic, 33μF, 35V
C204	1	1	1	EA3360259	Electrolytic, 33μF, 35V
C105	1	1	1	DD1620101	Ceramic, 200PF
C205	1	1	1	DD1620101	Ceramic, 200PF
C106	1	1	1	DD1620101	Ceramic 200PF
C206	1	1	1	DD1620101	Ceramic, 200PF
C107	1	1	1	DD1650001	Ceramic, 50PF
C207	1	1	1	DD1650001	Ceramic, 50PF

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
C108	1	1	1	DD1650001	Ceramic, 50PF
C208	1	1	1	DD1650001	Ceramic, 50PF
C109	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C209	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C110	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C210	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C111	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C211	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C112	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C212	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C113	1	1	1	DF1510205	Film, 0.001µF
C213	1	1	1	DF1510205	Film, 0.001µF
C114	1	1	1	DF1510205	Film, 0.001µF
C214	1	1	1	DF1510205	Film, 0.001µF
C115	1	1	1	EA1070359	Electrolytic, 100µF, 35V
C215	1	1	1	EA1070359	Electrolytic, 100µF, 35V
C116	1	1	1	EA1070359	Electrolytic, 100µF, 35V
C216	1	1	1	EA1070359	Electrolytic, 100µF, 35V
C117	1	1	1	DF1522305	Film, 0.022µF
C217	1	1	1	DF1522305	Film, 0.022µF
C118	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C218	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C119	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C219	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C120	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C220	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C121	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C221	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C122	1	1	1	DF1610205	Film, 0.001µF
C222	1	1	1	DF1610205	Film, 0.001µF
C123	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C223	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C124	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C224	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C125	1	1	1	DD1650001	Ceramic, 50PF
C225	1	1	1	DD1650001	Ceramic, 50PF
C126	1	1	1	DD1650001	Ceramic, 50PF
C226	1	1	1	DD1650001	Ceramic, 50PF
C127	1	1	1	DD1620101	Ceramic, 200PF
C227	1	1	1	DD1620101	Ceramic, 200PF
C128	1	1	1	DD1620101	Ceramic, 200PF
C228	1	1	1	DD1620101	Ceramic, 200PF
C129	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C229	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C130	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C230	1	1	1	EA1070109	Electrolytic, 100µF, 10V
C131	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C231	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C132	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C232	1	1	1	EE3350251	Electrolytic, 3.3µF, 25V
C133	1	1	1	EA3360109	Electrolytic, 33µF, 10V
C233	1	1	1	EA3360109	Electrolytic, 33µF, 10V
C134	1	1	1	DF6515151	Film, 150P
C234	1	1	1	DF6515151	Film, 150P
C135	1	1	1	DF6510101	Film, 100PF
C235	1	1	1	DF6510101	Film, 100PF
C136	1	1	1	DF6550101	Film, 500PF
C236	1	1	1	DF6550101	Film, 500PF
C137	1	1	1	DF1518205	Film, 0.0018µF
C237	1	1	1	DF1518205	Film, 0.0018µF
C138	1	1	1	DF6510101	Film, 100PF
C238	1	1	1	DF6510101	Film, 100PF
C139	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C239	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C140	1	1	1	DF1650101	Film, 500PF
C240	1	1	1	DF1650101	Film, 500PF
C141	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C241	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C142	1	1	1	EE4750355	Electrolytic, 4.7µF, 35V
C242	1	1	1	EE4750355	Electrolytic, 4.7µF, 35V
C143	1	1	1	EE4750355	Electrolytic, 4.7µF, 35V
C243	1	1	1	EE4750355	Electrolytic, 4.7µF, 35V
C144	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C244	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C145	1	1	1	EE2250351	Electrolytic, 2.2µF, 35V
C245	1	1	1	EE2250351	Electrolytic, 2.2µF, 35V
C146	1	1	1	EM1040251	Electrolytic, 0.1µF, 25V
C246	1	1	1	EM1040251	Electrolytic, 0.1µF, 25V
C147	1	1	1	EA4750359	Electrolytic, 4.7µF 35V
C247	1	1	1	EA4750359	Electrolytic, 4.7µF, 35V
C148	1	1	1	EA2250509	Electrolytic, 2.2µF, 50V
C248	1	1	1	EA2250509	Electrolytic, 2.2µF, 50V
C149	1	1	1	EA1050509	Electrolytic, 1µF, 50V
C249	1	1	1	EA1050509	Electrolytic, 1µF, 50V
C150	1	1	1	DF6515151	Film, 150PF
C250	1	1	1	DF6515151	Film, 150PF
C151	1	1	1	DF1547205	Film, 0.047µF
C251	1	1	1	DF1547205	Film,
C152	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C252	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C153	1	1	1	DF1610401	Film, 0.1µF
C253	1	1	1	DF1610401	Film, 0.1µF
C154	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C254	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C155	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C255	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C156	1	1	1	EE1060162	Electrolytic, 10µF, 16V
C256	1	1	1	EE1060167	Electrolytic, 10µF, 16V
C157	1	1	1	DF1510205	Film, 0.001µF
C257	1	1	1	DF1510205	Film, 0.001µF
C158	1	1	1	DF6610101	Film, 100PF
C258	1	1	1	DF6610101	Film, 100PF
C159	1	1	1	EA4750359	Electrolytic, 4.7µF, 35V
C259	1	1	1	EA4750359	Electrolytic, 4.7µF, 35V
C160	1	1	1	DF1518305	Film, 0.018µF
C260	1	1	1	DF1518305	Film, 0.018µF
C161	1	1	1	DF1518305	Film, 0.018µF
C261	1	1	1	DF1518305	Film, 0.018µF
C162	1	1	1	DF1522305	Film, 0.022µF
C262	1	1	1	DF1522305	Film, 0.022µF
C163	1	1	1	DD1530101	Ceramic, 300PF
C263	1	1	1	DD1530101	Ceramic, 300PF
C164	1	1	1	DD1615101	Ceramic, 150PF
C264	1	1	1	DD1615101	Ceramic, 150PF
C165	1	1	1	DD1650101	Ceramic, 500PF
C265	1	1	1	DD1650101	Ceramic, 500PF
C166	1	1	1	DF1622301	Film, 0.022µF
C266	1	1	1	DF1622301	Film, 0.022µF
C167	1	1	1	DD1620101	Ceramic, 200PF
C267	1	1	1	DD1620101	Ceramic, 200PF
C168	1	1	1	DD1620101	Ceramic, 200PF
C268	1	1	1	DD1620101	Ceramic, 200PF
C169	1	1	1	DD1615101	Ceramic, 150PF
C269	1	1	1	DD1615101	Ceramic, 150PF
C170	1	1	1	DD1610101	Ceramic, 100PF

U: U.S.A.
C: Canada
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REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
C270	1	1	1	DD1610101	Ceramic, 100PF
C171	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C271	1	1	1	EA3560259	Electrolytic, 33μF 25V
C172	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C272	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C173	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C273	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C174	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C274	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C175	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C275	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C176	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C276	1	1	1	EE3350251	Electrolytic, 3.3μF, 25V
C177	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C277	1	1	1	EA3360259	Electrolytic, 33μF, 25V
C301	1	1	1	EA1070259	Electrolytic, 100μF, 25V
C302	1	1	1	DF1610251	Film, 0.001μF, 200WV
C303	1	1	1	DF1610251	Film, 0.001μF, 200WV
C304	1	1	1	DF1610205	Film, 0.001μF
C305	1	1	1	EA1050501	Electrolytic, 1μF, 50V
C306	1	1	1	DF5656150	Film, 560PF
C307	1	1	1	DF5656150	Film, 560PF
C308	1	1	1	DF1515351	Film, 0.015μF, 200WV
C309	1	1	1	DK1710201	Ceramic, 0.001μF
					P100–MISCELLANEOUS
J101	129	129	129	YP1000113	Plug
					POWER SUPPLY CIRCUIT BOARD-P400
P400	1	1	1	YD3444002	P.W. Bord, Power Supply
	1	1	1	ZZ3444002	P.W. Bord Assembly
					P400-SEMICONDUCTORS
Q401	1	1	1	HD2001610	Diode, 10DC1⊕
Q402	1	1	1	HD2001710	Diode, 10DC1⊖
Q403	1	1	1	HD2001610	Diode, 10DC1⊕
Q404	1	1	1	HD2001710	Diode, 10DC1⊖
Q405	1	1	1	HT403891A	Transistor, 2SD389 (O)
Q406	1	1	1	HT308281C	Transistor, 2SC828 (R)
Q407	1	1	1	HT308281C	Transistor, 2SC828 (R)
Q408	1	1	1	HT308281C	Transistor, 2SC828 (R)
Q409	1	1	1	HT313831D	Transistor, 2SC1383 (S)
Q410	1	1	1	HD3004609	Diode, BZ-310
Q411	1	1	1	HD1000302	Diode, 20A90
Q412	1	1	1	HD1000302	Diode, 20A90
Q413	1	1	1	HD1000302	Diode, 20A90
Q414	1	1	1	HD2001310	Diode, 10D1
					P400-RESISTORS
R401	1	1	1	GJ0510002	10Ω, 2W, ±5%
R402	1	1	1	GJ0582101	820Ω, 1W, ±5%
R403	1	1	1	GJ0547102	470Ω, 2W, ±5%
R404	1	1	1	GJ0582102	820Ω, 2W, ±5%
R405	1	1	1	RT0539214	3.9KΩ, ¼W, ±5%
R406	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R407	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R408	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R409	1	1	1	RT0547214	4.7KΩ, ¼W, ±5%
R410	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R411	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R412	1	1	1	RT0512214	1.2KΩ, ¼W, ±5%
R413	1	1	1	RT0533214	3.3KΩ ¼W, ±5%
R414	1	1	1	RT0510414	100KΩ, ¼W, ±5%
					P400–CAPACITORS
C401	1	1	1	EA4770509	Electrolytic, 470μF, 50V
C402	1	1	1	EA3370509	Electrolytic, 330μF, 50V
C403	1	1	1	EA2270509	Electrolytic, 220μF, 50V
C404	1	1	1	EA1070359	Electrolytic, 100μF, 35V
C405	1	1	1	EA1080169	Electrolytic, 1000μF, 16V
C406	1	1	1	EA1060169	Electrolytic, 10μF, 16V
C407	1	1	1	EA1060169	Electrolytic, 10μF, 16V
C408	1	1	1	DF1633201	Film, 0.033μF
C409	1	1	1	DF1610350	Film, 0.01μF, 200V
C410	1	1	1	DF1610350	Film, 0.01μF, 200V
C411	1	1	1	DF1610350	Film, 0.01μF, 200V
C412	1	1	1	DF1610350	Film, 0.01μF, 200V
C413	1	1	1	DF1610350	Film, 0.01μF, 200V
C414	1	1	1	DF1610350	Film, 0.01μF, 200V
C415	1	1	1	DF1610350	Film, 0.01μF, 200V
C416	1	1	1	DF1610350	Film, 0.01μF, 200V
					P400–MISCELLANEOUS
J401	25	25	25	YP1000113	Plug
G401	1	1	1	BF1040003	Printed Comp. 0.1 + 120Ω
					RELAY CIRCUIT BOARD-P450
P450	1	1	1	YD3444010	P.W. Board, Relay
				ZZ3444010	P.W. Board Assembly
L451	1	1	1	LY1024001	Relay, DC24V
					P450–RESISTORS
R451	1	1	1	RT0547314	47KΩ ¼W, ±5%
R452	1	1	1	RT0522414	220KΩ ¼W, ±5%
R453	1	1	1	RT0522414	220KΩ ¼W, ±5%
R454	1	1	1	RT0539314	39KΩ ¼W, ±5%
R455	1	1	1	GJ0522102	220 Ω 2W, ±5%
R456	1	1	1	RT0556314	56KΩ ¼W, ±5%
					P450-CAPACITORS
C451	1	1	1	EA2270259	Electrolytic, 220μF, 25V
C452	1	1	1	EA1060509	Electrolytic, 10μF 50V
C453	1	1	1	EE2260255	Electrolytic, 220μF, 25V
					P450-SEMICONDUCTORS
Q451	1	1	1	HT308281C	Transistor, 2SC828(R)
Q452	1	1	1	HT313171R	Transistor, 2SC1317(R)
Q453	1	1	1	HD2001310	Diode, 10DC1
Q454	1	1	1	HD3003109	Diode, WZ-081
Q455	1	1	1	HD1000302	Diode, 20A90
					P450–MISCELLANEOUS
J451	4	4	4	YP1000113	Plug
					LAMP CIRCUIT BOARD-P480
P480	1	1	1	YD3444003	P.W. Board, Lamp
	1	1	1	ZZ3444003	P.W. Board Assembly
					LAMP CIRCUIT BOARD-P480
V481	1	1	1	IN1008039	Dolby R
V482	1	1	1	IN1008039	Dolby FM

U: U.S.A.
C: Canada
N: Europe

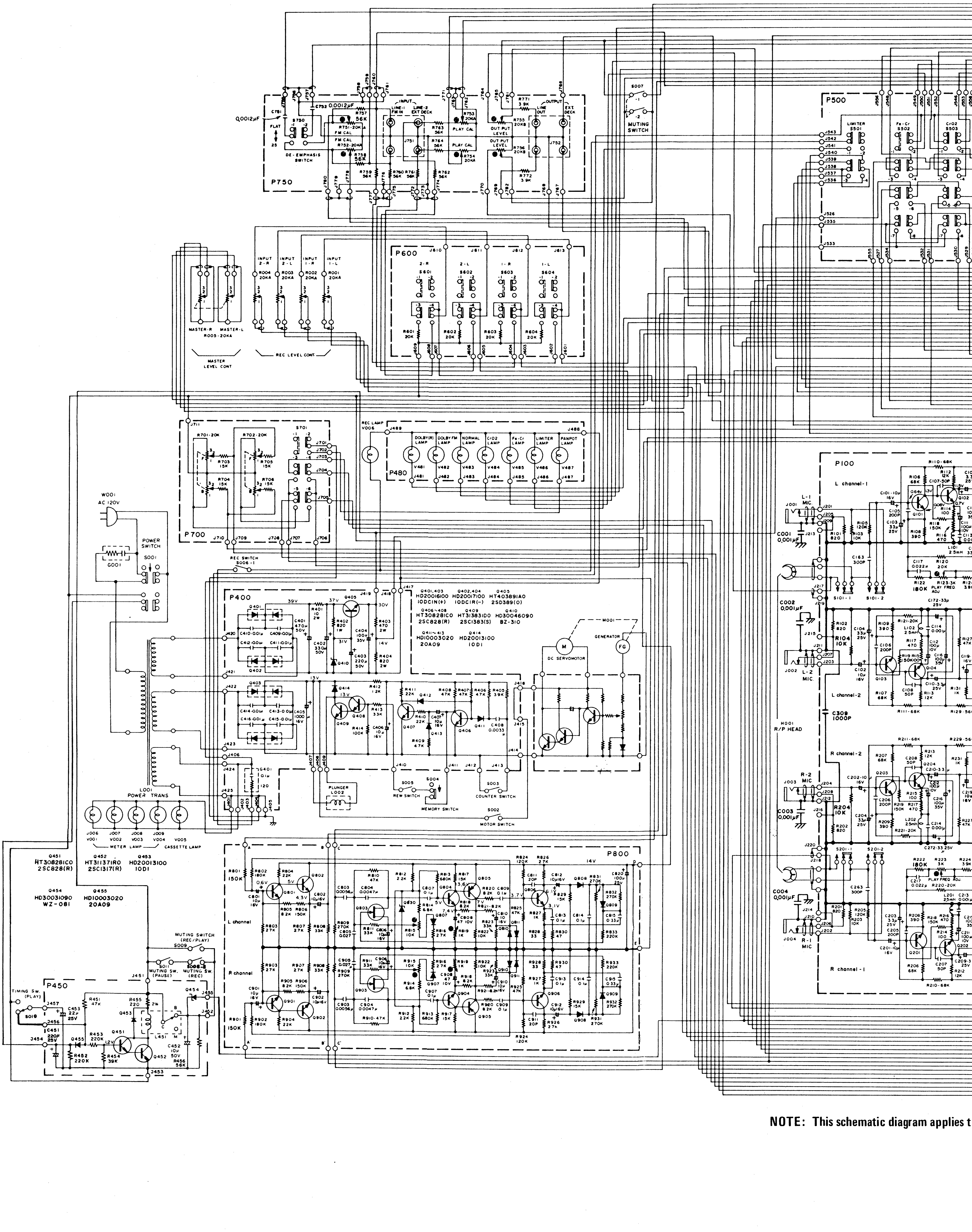
REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	N		
V483	1	1	1	IN1008039	Normal
V484	1	1	1	IN1008039	CrO_2
V485	1	1	1	IN1008039	Fe-Cr
V486	1	1	1	IN1008039	Limiter
V487	1	1	1	IN1008039	Panpot
					P480–MISCELLANEOUS
J480	9	9	9	YP1000113	Plug
					SWITCH CIRCUIT BOARD–P500
P500	1	1	1	YD3444004	P.W. Bord, Switch
	1	1	1	ZZ3444004	P.W. Bord Assembly
					P500–SWITCHES
S501	1	1	1	SP0804001	Push Switch, With S502~S504
S505	1	1	1	SP0804002	Push Switch, With S506~S508
					P500–RESISTORS
R501	6	6	6	RC0000012	0Ω, ½W
					P500–MISCELLANEOUS
J501	73	73	73	YP1000113	Plug
					INPUT SELECTOR CIRCUIT BOARD–P600
P600	1	1	1	YD3444005	P.W. Board, Input Selector
	1	1	1	ZZ3444005	P.W. Board Assembly
					P600–SWITCHES
S601	1	1	1	SP0402014	Push Switch, With S602
S603	1	1	1	SP0402014	Push Switch, With S604
					P600–MISCELLANEOUS
J601	13	13	13	YP1000113	Plug
					P600–RESISTORS
R601	1	1	1	RT0520314	20KΩ ¼W, ±5%
R602	1	1	1	RT0520314	20KΩ ¼W, ±5%
R603	1	1	1	RT0520314	20KΩ ¼W, ±5%
R604	1	1	1	RT0520314	20KΩ ¼W, ±5%
					PANPOT CIRCUIT BOARD–P700
P700	1	1	1	YD3444006	P.W. Board, Panpot
	1	1		ZZ3444006	P.W. Board Assembly
			1	ZZ3444806	P.W. Board Assembly
					P700–RESISTORS
R701	1	1	1	RK0203035	Variable, 20KΩ Vol. 180°
R702	1	1	1	RK0203035	Variable, 20KΩ Vol. 180°
R703	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R704	1	1	1	RT0515314	150KΩ, ¼W, ±5%
R705	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R706	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R707	1	1	1	RC0000012	0Ω, ½W,
					P700–MISCELLANEOUS
S701	1	1	1	SP0602009	Push Switch
J701	11	11	11	YP1000113	Plug
					TERMINALS CIRCUIT BOARD-P750
P750	1	1		YD3444007	P.W. Board, Terminals
	1	1		ZZ3444007	P.W. Board Assembly
P750			1	YD3444008	P.W. Board, Terminals
			1	ZZ3444808	P.W. Board Assembly
					P750–RESISTORS
R750	3	3	3	RC0000012	0Ω, ½W
R751	1	1	1	RK0203036	Variable, 20KΩ(A), FM Cal L
R752	1	1	1	RK0203036	Variable, 20KΩ(A), FM Cal R
R753	1	1	1	RK0203036	Variable, 20KΩ(A), Play Cal L
R754	1	1	1	RK0203036	Variable, 20KΩ(A), Play Cal R
R755	1	1	1	RK0203032	Variable, 20KΩ(B), Output L
R756	1	1	1	RK0203032	Variable, 20KΩ(B), Output R
R757	1	1		RT0556314	56KΩ, ¼W, ±5%
R758	1	1		RT0556314	56KΩ, ¼W, ±5%
R759	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R760	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R761	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R762	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R763	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R764	1	1	1	RT0568314	68KΩ, ¼W, ±5%
R765	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R766			1	RT0547314	47KΩ, ¼W, ±5%
R767			1	RT0547314	47KΩ, ¼W, ±5%
R768			1	RT0547314	47KΩ, ¼W, ±5%
R769			1	RT0556214	5.6KΩ, ¼W, ±5%
R770			1	RT0556214	5.6KΩ, ¼W, ±5%
R771	1	1	1	RT0539214	3.9KΩ, ¼W, ±5%
R772	1	1	1	RT0539214	3.9KΩ, ¼W, ±5%
					P750–CAPACITORS
C751	1	1		DF1512205	Film, 0.0012μF
C752	1	1		DF1512205	Film, 0.0012μF
					P750–MISCELLANEOUS
5750	1	1	1	SS0202036	Slide Switch
J751	1	1	1	YT0204007	Terminal, 4P, Input
J752	1	1	1	YT0204007	Terminal, 4P, Output
J753			1	YJ1100017	Jack, DIN 1
J754			1	YJ1100017	Jack, DIN 2
J755	28	28	28	YP1000113	Plug
					DOLBY CIRCUIT BOARD-P800
P800	1	1	1	YD3444009	P.W. Board, Dolby
	1	1	1	ZZ3444009	P.W. Bord Assembly
					P800–SEMICONDUCTORS
Q801	1	1	1	HT306441B	Transistor, 2SC644(S)
Q901	1	1	1	HT306441B	Transistor, 2SC644 (S)
Q802	1	1	1	HT306441B	Transistor, 2SC644 (S)
Q902	1	1	1	HT306441B	Transistor 2SC644 (S)
Q803	1	1	1	HF200301E	Transistor, 2SK30A (D)
Q903	1	1	1	HF200301E	Transistor, 2SK30A(D)
Q804	1	1	1	HT306441B	Transistor, 2SC644(S)
Q904	1	1	1	HT306441B	Transistor, 2SC644(S)
Q805	1	1	1	HT107211T	Transistor, 2SA721(T)
Q905	1	1	1	HT107211T	Transistor, 2SA721(T)
Q806	1	1	1	HT306441B	Transistor, 2SC644(S)
Q906	1	1	1	HT306441B	Transistor, 25C644(S)
Q807	1	1	1	HD1000302	Diode, 20A90

U: U.S.A.
C: Canada
N: Europe

REF. DESIG.	QTY. U	QTY. C	QTY. N	PART NO.	DESCRIPTION
Q907	1	1	1	HD1000302	Diode, 20A90
Q808	1	1	1	HD1000302	Diode, 20A90
Q908	1	1	1	HD1000302	Diode, 20A90
Q809	1	1	1	HD2001105	Diode, 1S1555
Q909	1	1	1	HD2001105	Diode, 1S1555
Q810	1	1	1	HD2001105	Diode, 1S1555
Q910	1	1	1	HD2001105	Diode, 1S1555
Q811	1	1	1	HD2001105	Diode, 1S1555
Q911	1	1	1	HD2001105	Diode, 1S1555
Q830	1	1	1	HD3003109	Diode, WZ081
					P800–MISCELLANEOUS
J801	1	1	1	YP0600027	Plug, 9P
J802	1	1	1	YJ0600027	Jack, 9P
					P800–RESISTORS
R801	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R901	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R802	1	1	1	RT0518414	180KΩ, ¼W, ±5%
R902	1	1	1	RT0518414	180KΩ, ¼W, ±5%
R803	1	1	1	RT0527314	27KΩ, ¼W, ±5%
R903	1	1	1	RT0527314	27KΩ, ¼W, ±5%
R804	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R904	1	1	1	RT0522314	22KΩ, ¼W, ±5%
R805	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R905	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R806	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R906	1	1	1	RT0515414	150KΩ, ¼W, ±5%
R807	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R907	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R808	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R908	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R809	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R909	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R810	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R910	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R811	1	1	1	RT0533214	3.3KΩ, ¼W ±5%
R911	1	1	1	RT0533214	3.3KΩ, ¼W, ±5%
R812	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R912	1	1	1	RT0522214	2.2KΩ, ¼W, ±5%
R813	1	1	1	RT0568414	680KΩ, ¼W, ±5%
R913	1	1	1	RT0568414	680KΩ, ¼W, ±5%
R814	1	1	1	RT0568214	6.8KΩ, ¼W, ±5%
R914	1	1	1	RT0568214	6.8KΩ, ¼W, ±5%
R815	1	1	1	RA0103014	Trimming, 10KΩ
R915	1	1	1	RA0103014	Trimming, 10KΩ
R816	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R916	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R817	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R917	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R818	1	1	1	RT0582214	8.2KΩ, ¼W ±5%
R918	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R819	1	1	1	RA0102011	Trimming, 1KΩ
R919	1	1	1	RA0102011	Trimming, 1KΩ
R820	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R920	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R821	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R921	1	1	1	RT0582214	8.2KΩ, ¼W, ±5%
R822	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R922	1	1	1	RT0510314	10KΩ, ¼W, ±5%
R823	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R923	1	1	1	RT0533314	33KΩ, ¼W, ±5%
R824	1	1	1	RT0512414	120KΩ, ¼W, ±5%
R924	1	1	1	RT0512414	120KΩ, ¼W, ±5%
R825	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R925	1	1	1	RT0547314	47KΩ, ¼W, ±5%
R826	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R926	1	1	1	RT0527214	2.7KΩ, ¼W, ±5%
R827	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R927	1	1	1	RT0510214	1KΩ, ¼W, ±5%
R828	1	1	1	RT0533014	33Ω, ¼W, ±5%
R928	1	1	1	RT0533014	33Ω, ¼W, ±5%
R829	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R929	1	1	1	RT0515314	15KΩ, ¼W, ±5%
R830	1	1	1	RT0547014	47Ω, ¼W, ±5%
R930	1	1	1	RT0547014	47Ω, ¼W, ±5%
R831	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R931	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R832	1	1	1	RT0527414	270KΩ, ¼W ±5%
R932	1	1	1	RT0527414	270KΩ, ¼W, ±5%
R833	1	1	1	RT0522414	220KΩ, ¼W, ±5%
R933	1	1	1	RT0522414	220KΩ, ¼W, ±5%
R800	1	1	1	RC0000012	0Ω, ½W, ±0%
					P800–CAPACITORS
C801	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C901	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C802	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C902	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C803	1	1	1	DF1556205	Film, 0.0056µF
C903	1	1	1	DF1556205	Film, 0.0056µF
C804	1	1	1	DF1547205	Film, 0.0047µF
C904	1	1	1	DF1547205	Film, 0.0047µF
C805	1	1	1	DF1527305	Film, 0.027µF
C905	1	1	1	DF1527305	Film, 0.027µF
C806	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C906	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C807	1	1	1	DF1710405	Film, 0.1µF
C907	1	1	1	DF1710405	Film, 0.1µF
C808	1	1	1	EA4760109	Electrolytic, 47µF, 10V
C908	1	1	1	EA4760109	Electrolytic, 47µF, 10V
C809	1	1	1	DF1710405	Film, 0.1µF
C909	1	1	1	DF1710405	Film, 0.1µF
C810	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C910	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C811	1	1	1	DD1520001	Ceramic, 20PF
C911	1	1	1	DD1520001	Ceramic, 20PF
C812	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C912	1	1	1	EA1060169	Electrolytic, 10µF, 16V
C813	1	1	1	DF1710405	Film, 0.1µF
C913	1	1	1	DF1710405	Film, 0.1µF
C814	1	1	1	DF1710405	Film, 0.1µF
C814	1	1	1	DF1710405	Film, 0.1µF
C914	1	1	1	DF1710405	Film, 0.1µF
C815	1	1	1	DF1733405	Film, 0.33µF
C915	1	1	1	DF1733405	Film, 0.33µF
C820	1	1	1	EA1070259	Electrolytic, 100µF, 25V
					GENERAL MISCELLANEOUS
H001	1	1	1	LH4210201	Rec/Play Head
H002	1	1	1	LH3100028	Erase Head
M001	1	1	1	MM1013001	DC Motor
S001	1	1	1	SP0401015	Push Switch,

U: U.S.A.
C: Canada
N: Europe

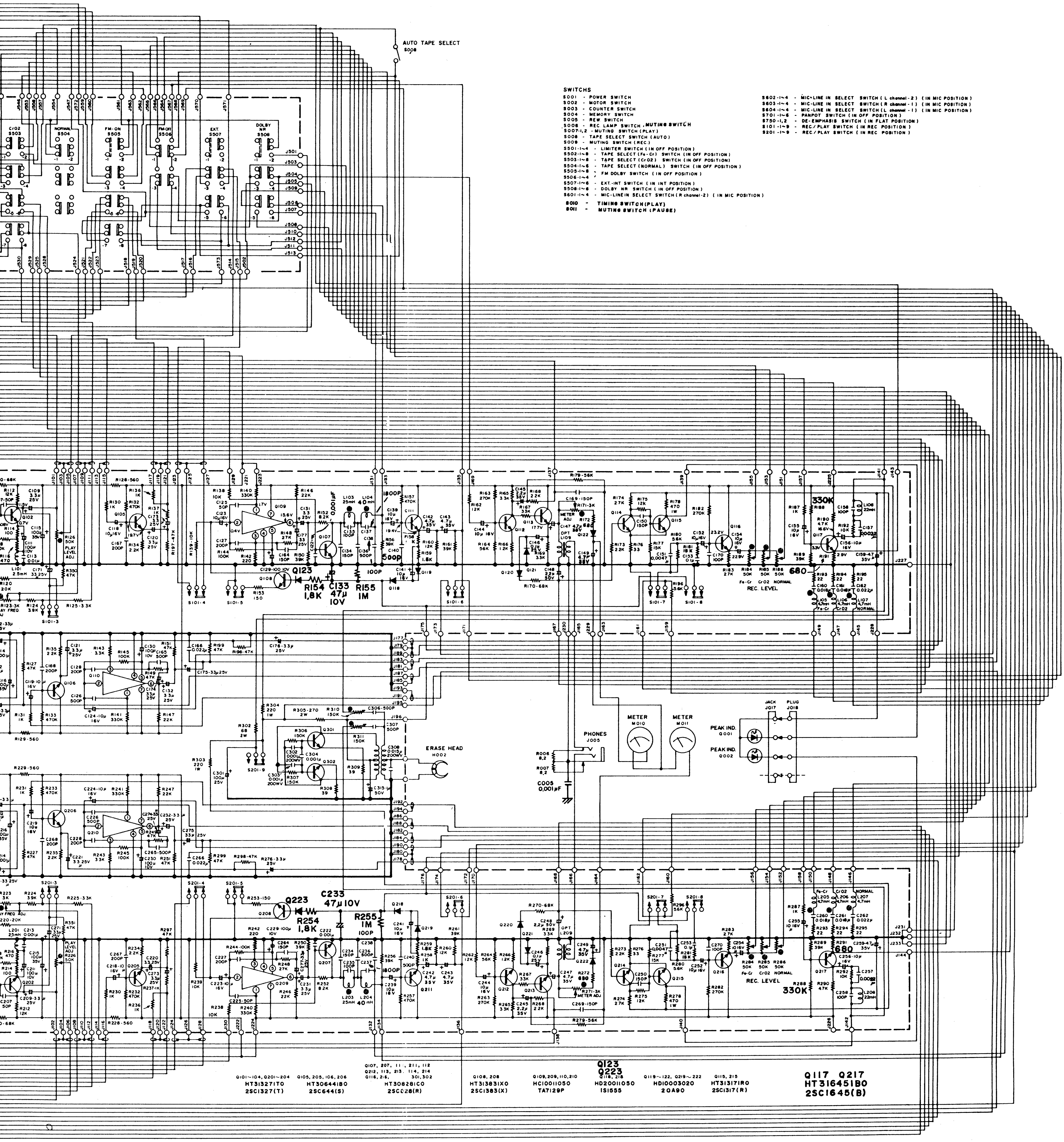
REF. DESIG.	QTY. U	QTY. C	QTY. N	PART NO.	DESCRIPTION
S002	1	1	1	SM0101043	Mini-Switch
S004	1	1	1	SP0102002	Push Switch
S005	1	1	1	SM0101043	Mini-Switch
S006	1	1	1	SM0201007	Mini-Switch
S007	1	1	1	SM0202007	Mini-Switch
S008	1	1	1	SM0101044	Mini-Switch
S009	1	1	1	SM0101047	Mini-Switch
S010	1	1	1	SM0101055	Mini-Switch
S011	1	1	1	SM0101056	Mini-Switch
G001	1	1		BF1040003	Printed Comp., 0.1µF +120ΩUL
L001	1	1		TS1601602	Power Transformer
L001			1	TS1601702	Power Transformer
W001	1	1		YC0240010	Power Corde
J001	1	1	1	YJ0100082	Jack,
J002	1	1	1	YJ0100082	Jack
J003	1	1	1	YJ0100082	Jack,
J004	1	1	1	YJ0100082	Jack
J005	1	1	1	YJ0100081	Jack
J006	1	1	1	YJ0100013	Jack
J007	1	1	1	YJ0800013	Jack
J008	1	1	1	YJ0800013	Jack
J009	1	1	1	YJ0800013	Jack
J010	1	1	1	YJ0101005	Jack
J011			1	YJ0800009	Jack
J012			1	YJ0800009	Jack
J013			1	YJ0800009	Jack
J014			1	YJ0800022	Jack
J015			1	BY0314001	Jack
J016			1	YP0400056	Jack
J017	1	1	1	YJ1000063	Jack
J018	1	1	1	YP1000129	Jack
V001	1	1	1	IN1008007	Lamp
V002	1	1	1	IN1008007	Lamp
V003	1	1	1	IN1008007	Lamp
V004	1	1	1	IN1008007	Lamp
V005	1	1	1	IN1008030	Lamp
V006	1	1	1	IN1008030	Lamp
Q001	1	1	1	HI1000302	Diode
Q002	1	1	1	HI1000302	Diode
F001			1	FS1010080	Fuse, 1A
F002			1	FS1010080	Fuse, 1A
F003			1	FS1031580	Fuse, 3.15A
F004			1	FS1003180	Fuse, 315mA
L002	1	1	1	ME1053003	Solenoid Coil
M010	1	1	1	IM1108207	Meter, Left
M011	1	1	1	IM1108202	Meter, Right
R001	1	1	1	RX0203018	Variable Resistor, 20KΩ Rec. Level 1-L
R002	1	1	1	RX0203018	Variable Resistor, 20KΩ Rec. Level 1-R
R003	1	1	1	RX0203018	Variable Resistor, 20KΩ Rec. Level 2-L
R004	1	1	1	RX0203018	Variable Resistor, 20KΩ Rec. Level 2-R
R005	1	1	1	RS0203009	Variable Resistor, 20KΩ Rec. Master
R006	1	1	1	RT0508214	Resistor, 8.2Ω, ¼W, ±5%
R007	1	1	1	RT0508214	Resistor, 8.2Ω, ¼W, ±5%


P750
DE-EMPHASIS SWITCH
FLAT
25
0.0012μF
INPUT
LINE-1 FM IN
LINE-2 EXT DECK
FM CAL
PLAY CAL
OUTPUT
LINE OUT
EXT DECK
OUT PUT LEVEL
MUTING SWITCH
S007
P500
LIMITER S501
Fe-Cr S502
CrO2 S503
MASTER-R
MASTER-L
R005-20KA
MASTER LEVEL CONT
INPUT 2-R
INPUT 2-L
INPUT 1-R
INPUT 1-L
REC LEVEL CONT
P600
S601
S602
S603
S604
P700
S701
REC LAMP V006
P480
DOLBY(R) LAMP
DOLBY FM LAMP
NORMAL LAMP
CrO2 LAMP
Fe-Cr LAMP
LIMITER LAMP
PANPOT LAMP
W001
AC 120V
POWER SWITCH
S001
G001
REC SWITCH
S006-1
P400
Q401,403 HD20016100 10DC1N(+)
Q402,404 HD20017100 10DC1R(-)
Q405 HT40389IA0 2SD389(Q)
Q406~408 HT30828IC0 2SC828(R)
Q409 HT31383ID0 2SC1383(S)
Q410 HD30046090 BZ-310
Q411~413 HD10003020 20A09
Q414 HD20013100 10D1
M001
DC SERVOMOTOR
GENERATOR
L001
POWER TRANS
PLUNGER L002
S005 REW SWITCH
S004 MEMORY SWITCH
S003 COUNTER SWITCH
S002 MOTOR SWITCH
J006 V001
J007 V002
J008 V003
J009 V004
V005
METER LAMP
CASSETTE LAMP
Q451 HT30828IC0 2SC828(R)
Q452 HT31137IR0 2SC1317(R)
Q453 HD20013100 10D1
Q454 HD30031090 WZ-081
Q455 HD10003020 20A09
MUTING SWITCH (REC/PLAY)
S009
S011 MUTING SW. (PAUSE)
S008-2 MUTING SW. (REC)
P450
TIMING SW. (PLAY)
S010
P800
L channel
R channel
P100
L channel-1
L-1 MIC
L-2 MIC
L channel-2
H001 R/P HEAD
R channel-2
R-2 MIC
R-1 MIC
R channel-1
PLAY FREQ ADJ
C309 1000P

NOTE: This schematic diagram applies t

Pre-Amp.	mounted on P.W. Board, P100
Power Supply	mounted on P.W. Board, P400
Lamp	mounted on P.W. Board, P480
Switch	mounted on P.W. Board, P500
Input Select	mounted on P.W. Board, P600
Pan-Pot	mounted on P.W. Board, P700
Terminals	mounted on P.W. Board, P750
Dolby	mounted on P.W. Board, P800
Relay	mounted on P.W. Board, P450

MODEL 5420



SWITCHS

S001 - POWER SWITCH
S002 - MOTOR SWITCH
S003 - COUNTER SWITCH
S004 - MEMORY SWITCH
S005 - REW. SWITCH
S006 - REC. LAMP SWITCH , MUTING SWITCH
S007-1,2 - MUTING SWITCH (PLAY)
S008 - TAPE SELECT SWITCH (AUTO)
S009 - MUTING SWITCH (REC.)
S501-1~4 - LIMITER SWITCH (IN OFF POSITION)
S502-1~8 - TAPE SELECT (Fe-Cr) SWITCH (IN OFF POSITION)
S503-1~8 - TAPE SELECT (CrO2) SWITCH (IN OFF POSITION)
S504-1~6 - TAPE SELECT (NORMAL) SWITCH (IN OFF POSITION)
S505-1~8 / S506-1~4 - FM DOLBY SWITCH (IN OFF POSITION)
S507-1~6 - EXT.-INT SWITCH (IN INT POSITION)
S508-1~6 - DOLBY NR SWITCH (IN OFF POSITION)
S601-1~4 - MIC-LINEIN SELECT SWITCH (R channel-2) (IN MIC POSITION)
S010 - TIMING SWITCH (PLAY)
S011 - MUTING SWITCH (PAUSE)
S602-1~4 - MIC-LINE IN SELECT SWITCH (L channel-2) (IN MIC POSITION)
S603-1~4 - MIC-LINE IN SELECT SWITCH (R channel-1) (IN MIC POSITION)
S604-1~4 - MIC-LINE IN SELECT SWITCH (L channel-1) (IN MIC POSITION)
S701-1~6 - PANPOT SWITCH (IN OFF POSITION)
S750-1,2 - DE-EMPHASIS SWITCH (IN FLAT POSITION)
S101-1~9 - REC./PLAY SWITCH (IN REC POSITION)
S201-1~9 - REC./PLAY SWITCH (IN REC POSITION)

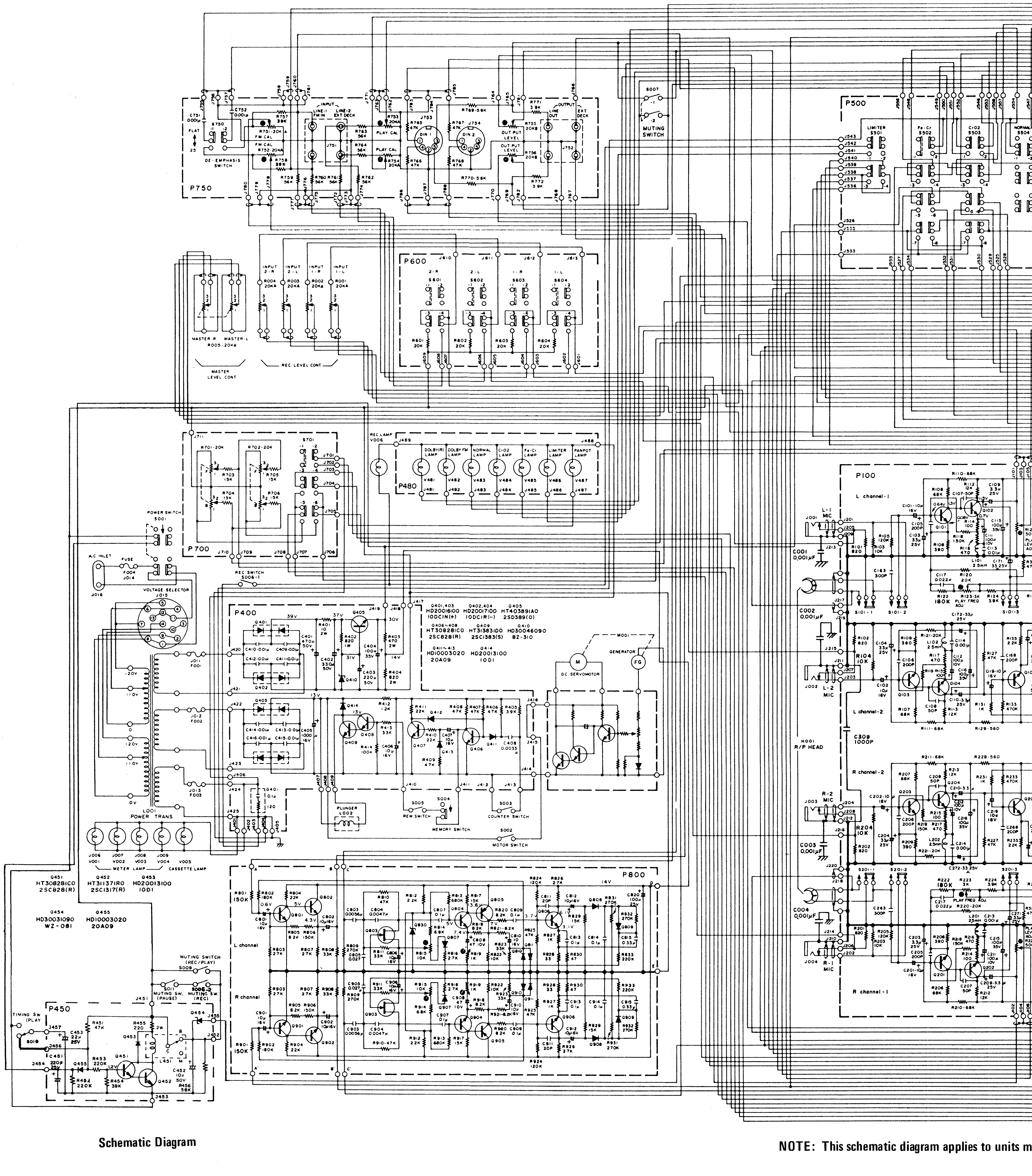
AUTO TAPE SELECT S008
CrO2 S503
NORMAL S504
FM-ON S505
FM-OFF S506
EXT S507
DOLBY NR S508
ERASE HEAD H002
PHONES J005
METER M010
METER M011
PEAK IND. Q001
PEAK IND. Q002
JACK J017
PLUG J018
REC. LEVEL
PLAY LEVEL ADJ
METER ADJ
Q123 R154 1.8K C133 47μ 10V R155 1M
Q223 C233 47μ 10V R254 1.8K R255 1M
680
330K
Q101~104, Q201~204 HT313271T0 2SC1327(T)
Q105, 205, 106, 206 HT30644IB0 2SC644(S)
Q107, 207, 111, 211, 112, Q212, 113, 213, 114, 214, Q116, 216, 301, 302 HT30828IC0 2SC828(R)
Q108, 208 HT31383IX0 2SC1383(X)
Q109, 209, 110, 210 HC10011050 TA7129P
Q123 Q223 Q118, 218 HD20011050 1S1555
Q119~122, Q219~222 HD10003020 20A90
Q115, 215 HT31317IR0 2SC1317(R)
Q117 Q217 HT316451B0 2SC1645(B)

pplies to units manufactured for the U.S.A. and Canada market

Schematic Diagram

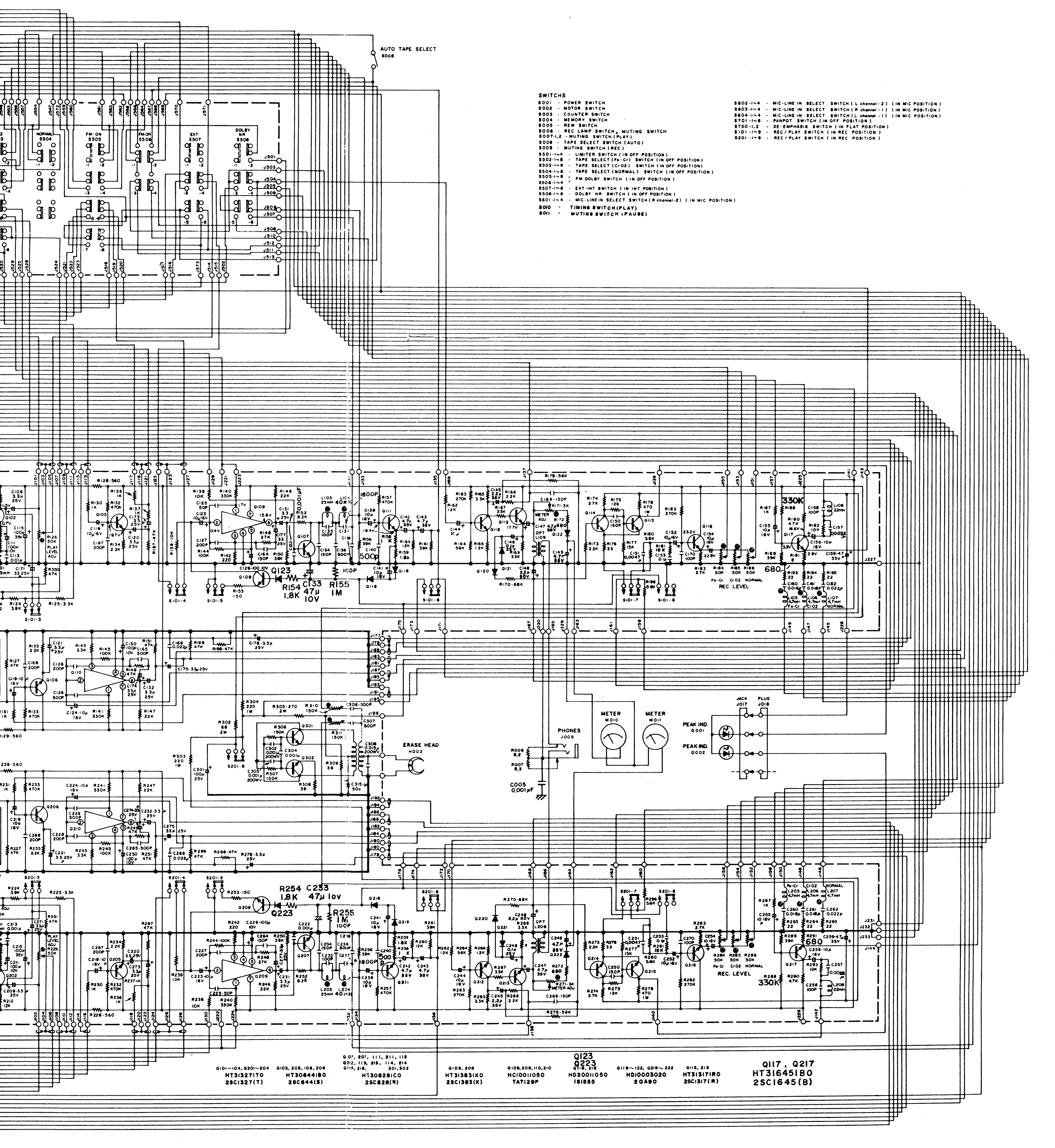
MODEL 5420

Pre-Amp.	mounted on P.W. Board, P100
Power Supply	mounted on P.W. Board, P400
Lamp	mounted on P.W. Board, P480
Switch	mounted on P.W. Board, P500
Input Select	mounted on P.W. Board, P600
Pan-Pot	mounted on P.W. Board, P700
Terminals	mounted on P.W. Board, P750
Dolby	mounted on P.W. Board, P800
Relay	mounted on P.W. Board, P450


P750
DE-EMPHASIS SWITCH
S750
FLAT
25
INPUT
LINE-1 FM IN
LINE-2 EXT DECK
FM CAL
PLAY CAL
DIN 1
DIN 2
OUTPUT
LINE OUT
EXT DECK
OUT PUT LEVEL
S007
MUTING SWITCH
P600
S601
S602
S603
S604
INPUT 2-R
INPUT 2-L
INPUT 1-R
INPUT 1-L
MASTER-R
MASTER-L
R005-20KA
MASTER LEVEL CONT
REC LEVEL CONT
P700
R701-20K
R702-20K
S701
REC LAMP V006
P480
DOLBY(R) LAMP
DOLBY FM LAMP
NORMAL LAMP
CrO2 LAMP
Fe-Cr LAMP
LIMITER LAMP
PANPOT LAMP
POWER SWITCH S001
A.C INLET
FUSE F004
REC SWITCH S006-1
VOLTAGE SELECTOR J015
P400
Q401,403 HD20016100 10DC1N(+)
Q402,404 HD20017100 10DC1R(−)
Q405 HT403891A0 2SD389(Q)
Q406~408 HT308281C0 2SC828(R)
Q409 HT313831D0 2SC1383(S)
Q410 HD30046090 BZ-310
Q411~413 HD10003020 20A09
Q414 HD20013100 10D1
M001
DC SERVOMOTOR
GENERATOR
FG
PLUNGER L002
S005 REW SWITCH
S004 MEMORY SWITCH
S003 COUNTER SWITCH
S002 MOTOR SWITCH
L001 POWER TRANS
METER LAMP
CASSETTE LAMP
Q451 HT308281C0 2SC828(R)
Q452 HT311371R0 2SC1317(R)
Q453 HD20013100 10D1
Q454 HD30031090 WZ-081
Q455 HD10003020 20A09
MUTING SWITCH (REC/PLAY) S009
S011 MUTING SW. (PAUSE)
S008-3 MUTING SW. (REC)
P450
TIMING SW (PLAY)
S010
P800
L channel
R channel
P500
LIMITER S501
Fe-Cr S502
CrO2 S503
NORMAL S504
P100
L channel-1
L channel-2
R channel-2
R channel-1
L-1 MIC
L-2 MIC
R-2 MIC
R-1 MIC
H001 R/P HEAD
PLAY FREQ ADJ
S101-1
S101-2
S101-3
S201-1
S201-2
S201-3

Schematic Diagram

NOTE: This schematic diagram applies to units m


AUTO TAPE SELECT
S008
SWITCHS
S001 - POWER SWITCH
S002 - MOTOR SWITCH
S003 - COUNTER SWITCH
S004 - MEMORY SWITCH
S005 - REW. SWITCH
S006 - REC. LAMP SWITCH, MUTING SWITCH
S007-1,2 - MUTING SWITCH (PLAY)
S008 - TAPE SELECT SWITCH (AUTO)
S009 - MUTING SWITCH (REC.)
S501-1~4 - LIMITER SWITCH (IN OFF POSITION)
S502-1~8 - TAPE SELECT (Fe-Cr) SWITCH (IN OFF POSITION)
S503-1~8 - TAPE SELECT (CrO2) SWITCH (IN OFF POSITION)
S504-1~6 - TAPE SELECT (NORMAL) SWITCH (IN OFF POSITION)
S505-1~8, S506-1~4 - FM DOLBY SWITCH (IN OFF POSITION)
S507-1~6 - EXT.-INT SWITCH (IN INT POSITION)
S508-1~6 - DOLBY NR. SWITCH (IN OFF POSITION)
S601-1~4 - MIC-LINE IN SELECT SWITCH (R channel-2) (IN MIC POSITION)
S010 - TIMING SWITCH (PLAY)
S011 - MUTING SWITCH (PAUSE)
S602-1~4 - MIC-LINE IN SELECT SWITCH (L channel-2) (IN MIC POSITION)
S603-1~4 - MIC-LINE IN SELECT SWITCH (R channel-1) (IN MIC POSITION)
S604-1~4 - MIC-LINE IN SELECT SWITCH (L channel-1) (IN MIC POSITION)
S701-1~6 - PANPOT SWITCH (IN OFF POSITION)
S750-1,2 - DE-EMPHASIS SWITCH (IN FLAT POSITION)
S101-1~9 - REC./PLAY SWITCH (IN REC POSITION)
S201-1~9 - REC/PLAY SWITCH (IN REC POSITION)
NORMAL S504
FM-ON S505
FM-OFF S506
EXT S507
DOLBY NR S508
METER M010
METER M011
PHONES J008
ERASE HEAD H002
JACK J017
PLUG J018
PEAK IND. Q001
PEAK IND. Q002
REC. LEVEL
REC. LEVEL
Q123
R154 1.8K
C133 47μ 10V
R155 1M
500p
330K
680
R254 1.8K
C233 47μ 10V
Q223
R255 1M
330K
680
Q101~104, Q201~204 HT31327ITO 2SC1327(T)
Q105, 205, 106, 206 HT30644IBO 2SC644(S)
Q107, 207, 111, 211, 112, Q212, 113, 213, 114, 214, Q118, 216, 301, 302 HT30828ICO 2SC828(R)
Q108, 208 HT31383IXO 2SC1383(X)
Q109, 209, 110, 210 HC10011050 TA7129P
Q123 Q223 Q118, 218 HD20011050 1S1555
Q119~122, Q219~222 HD10003020 2OA90
Q115, 215 HT31317IRO 2SC1317(R)
Q117, Q217 HT316451BO 2SC1645(B)

s to units manufactured for the European market

TECHNICAL SPECIFICATIONS

Signal to Noise Ratio	
DOLBY NR OFF	
with Fe-Cr or CrO_2 tape	52dB
with standard tape	48dB
DOLBY NR ON improves S/N ratio by	8dB
Total Harmonic Distortion	2%
Frequency Response (DOLBY NR OFF)	
with Ferri-Chrome tape	30Hz to 17kHz ±3dB
with CrO_2 tape	30Hz to 16kHz ±3dB
with standard tape	45Hz to 14kHz ±3dB
Wow and Flutter	0.07% W.R.M.S.
Input Impedance	
Mic	10KΩ
Line	68KΩ
Input Sensitivity	
Mic	0.25mV (–70dB)
Line	70mV (–21dB)
Line Output Level	900mV (+1dB)
Line Output Impedance	8KΩ
Headphones Output Impedance	8Ω

GENERAL

Power Requirements	120V AC, 60 Hz. (for U.S.A. and Canada) 110/120/220/240V∿, 50/60 Hz. (for Europe)
Power Consumption	25 Watt
Dimensions:	
Width	17-5/16 inches
Height	6-1/2 inches
Depth	12-3/4 inches
Weight:	
Model 5420 Only	19 pounds
Packed for Shipment	24 pounds